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ABSTRACT

A study examined the calculation of staff:student ratios (SSRs) in nursing and midwifery education in courses validated by the English National Board for Nursing, Midwifery and Health Visiting (ENB). Data were collected from questionnaires mailed to all 108 colleges of nursing and midwifery and higher education institutions offering ENB-validated courses and semistructured interviews with 10 senior managers in nursing and midwifery education. Thirty-nine usable questionnaires were returned. The study established a lack of standardization in the components of the formulas used by the various institutions to calculate SSRs. The interviews revealed three main methods of funding: funding based on SSR, per capita funding; and funding based on course costings that were largely determined by the funding body. Among the study recommendations were the following: (1) develop a standardized formula for calculating SSRs based on whole time equivalent students and staff; (2) calculate SSRs at those levels in organizations defined as the administrative unit or division in which nursing/midwifery education is located; and (3) express the formula used to calculate resources for nursing/midwifery education as per capita funding. (The bibliography contains 20 references. Appendixes include the survey instruments and cover letters and a list of field work objectives.) (MN)

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QUALITY EDUCATION FOR QUALITY CARE

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AN INVESTIGATION INTO STAFF : STUDENT RATIOS IN NURSING AND MIDWIFERY EDUCATION

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PREFACE

AN INVESTIGATION INTO STAFF:STUDENT RATIOS IN NURSING AND MIDWIFERY EDUCATION

The Board is pleased to publish the report which provides valuable information in the areas of resource management.

Through a variety of means including validation, monitoring and evaluation, the Board ensures that education for practice continues to be relevant both professionally and academically. Research based evidence provides a further important dimension for the development of policy. The findings and recommendations from all the research commissioned by the Board will be considered with a view to confirming or developing the Board's educational policies.

The findings and recommendations in this Final Report will be of particular interest to education providers and purchasers.

In response to the findings and recommendations in this Report the Board will develop reliable quality indicators relating to educational resources.

AN INVESTIGATION INTO STAFF : STUDENT RATIOS
IN NURSING AND MIDWIFERY EDUCATION

A one year research project commissioned by the English National Board
for nursing, midwifery & health visiting

July 1994

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ABSTRACT

The purpose of the study was to investigate the methods used to calculate staff:student ratios (SSRs) in nursing and midwifery education. The study utilised two main methods:

(i) A postal questionnaire sent to all colleges of nursing and midwifery and higher education institutions which offer English National Board for Nursing, Midwifery and Health Visiting (ENB) validated courses.

(ii) Semi-structured interviews with senior managers in nursing and midwifery education.

The questionnaire revealed a lack of standardisation in the components used in formulae designed to calculate SSRs. This created difficulties in accurately identifying and comparing the value of the SSR. The interviews revealed three main methods of funding: SSR, per capita funding and course costings which were largely determined by the funding body. The predominant method of funding influenced curriculum development, staff deployment and opportunities for managerial initiative within the higher education institutions and colleges of nursing and midwifery.

The aims of the project were:

(i) To provide information on the current methods employed by colleges of nursing and midwifery and higher education institutions to calculate SSRs for ENB approved pre- and post-registration courses in nursing and midwifery education.

(ii) To produce a report which identifies an appropriate theoretical basis for further examination of SSRs, in relation to the issues of resource management and academic management.

SECTION ONE

1. INTRODUCTION

This final report presents an account of the progress made over the last year of a research project titled **'An investigation into staff : student ratios in nursing and midwifery education.'** The aims and fieldwork objectives which govern the scope of this study are derived from the English National Board for Nursing, Midwifery and Health Visting (ENB) project specification document and are presented below.

1.1 Aims

1. To provide an up to date analysis of the current methods employed by colleges of nursing and midwifery and higher education institutions to calculate staff : student ratios for ENB approved pre- and post-registration courses in nursing and midwifery education.

2. To collect factual data to assist the Inquiry to consider:-
   (i) the variability in SSRs
   (ii) the range of different methods used to measure SSRs.

3. To produce a report which identifies an appropriate theoretical basis for further examination of SSRs in relation to the issues of resource management and academic management.

To realise these aims the research team accepts the recognition in the project specification that breadth as well as depth are required. The working practices and skill mix found in colleges of nursing and midwifery are diverse, as is the size and proximity of colleges to clinical placements. A variety of different collaborative links have also been developed with higher education institutions. SSRs have been developed in response to this diversity and do not, therefore, share a common foundation. It follows that the fieldwork has to achieve breadth in order accurately to reflect the diversity that currently prevails in nursing and midwifery education, however depth is also required if we are to identify the impact of SSR calculations on the day to day organisation and management of nursing and midwifery education.

1.1.2 Fieldwork Objectives

1. To review the literature (including official and professional publications and reports) on the development of SSRs, expenditure on nurse education, distribution of resources, educational policies, working practices and educational outcomes.

2. To identify variability in the SSR between colleges of nursing and midwifery and higher education institutions.

3. To identify variability in the SSR between courses, in particular between pre- and post-registration courses and nursing and midwifery courses

4. To examine the different methods used by colleges of nursing and midwifery and higher education institutions to calculate SSRs

5. To identify the roles and responsibilities, working practices and organisational functions of the colleges of nursing and midwifery and higher education institutions which are included in the calculation of the SSR.

6. To identify the roles and responsibilities, working practices and organisational functions of the colleges of nursing and midwifery and higher education institutions which are excluded from the calculation of the SSR.

1.1.3 Research Strategy

The research strategy utilises a qualitative approach and is presented in two phases. Phase one of the project is **a descriptive survey using a postal questionnaire** to collect information on the current methods employed by colleges of nursing and midwifery and higher education institutions to calculate staff : student ratios for ENB approved pre and post-registration courses in nursing and midwifery education. In addition it was used as the basis for selecting the sample for phase two of the research project. Phase two of the project consists of **a series of six semi-structured interviews** with a purposeful sample of nurse educationalists from around the country. This report presents the findings from phases one and two.

1.1.4 Background

Reasons for the changes in nurse education

Nurse and midwifery education are currently undergoing accelerating organisational and structural change. Project 2000 and the ENB Higher Award have paved the way for many colleges of nursing and midwifery to develop close collaborative links with higher education institutions. This has occurred for both pre- and post-registration courses. Community nursing has been established in higher education for some time. As a result of Working Paper 10 (Department of Health 1989), a variety of different models of association and partnership have developed between colleges of nursing and midwifery and higher education, each of which could have different implications for the development of staff : student ratios (SSRs).

Concurrently with these developments smaller colleges of nursing and midwifery have amalgamated to produce larger centres necessary for the development of excellence and economies of scale. Together these developments have opened up opportunities for new and innovative approaches to education. However, the gap between aspirations and implementation is wide and stages of development are diverse. Research into SSRs, roles and responsibilities must, therefore take cognisance of that gap and the diversity which currently characterises nursing and midwifery education.

It was against this background that the ENB commissioned this research project in order to "investigate methods of calculating teaching staff : student ratios (SSR) for pre- and post-registration courses of education and training in nursing, midwifery" (ENB 1992).

1.1.5 Issues acknowledged by the ENB working group

The ENB has been concerned about SSRs in nursing, midwifery and health visiting education for a number of years. In January 1992 a working group on teaching staff : student ratios was established. This working group reviewed the extensive work already undertaken by the ENB into the issue of SSRs. In particular it noted the concern expressed about the 1:10 SSR in midwifery education and the policy of establishing a 1:15 SSR for nursing, district nursing, health visiting and occupational health nursing courses. The working party recognised that the differences between the two SSRs was largely historical and a reflection of the fact that midwifery teachers have always been of one grade teaching both the theory and practice of midwifery. The other specialities have had two grades of teacher, one specifically to teach practice and the other theory. The current ENB policy is for one grade of teacher to teach theory and practice in all specialities. As a result of this policy, some Principals of colleges of nursing and midwifery have suggested there should be no difference between the SSR for nursing and midwifery.

1.1.6 Defining Staff / Student ratios

The Peat Marwick and McLintock Report (1989) highlighted the lack of an agreed definition of SSR and inconsistent and changing interpretations. It recommended that a standard definition should be developed for SSR over all the four countries of the United Kingdom. Research by Buttigieg (1990) discovered that an SSR of 1:15 in nursing and 1:10 in midwifery was easily achievable in some disciplines and Regions, but not in others, suggesting disparity in the distribution of resources.

1.1.7 The Clinical Link Requirement

More recently the ENB Regulations and Guidelines for the Approval of Institutions and Courses (1993) has highlighted the importance for nursing and midwifery teachers to remain engaged in practice. This recognises that nursing and midwifery are practice based professions. The guidelines indicate that "teachers should be involved in teaching in practice settings for the equivalent of one day per week. To facilitate this each full-time teacher should be counted as 0.8 Whole Time Equivalent (WTE) when calculating the staff:student ratios" (ENB 1993a p.2.13 reg.3.2). The introduction of this regulation reflects the concern expressed in the ENB working party report on SSRs which highlighted the need to achieve improved SSRs in order to facilitate practice based teaching and the maintenance of clinical links and clinical credibility by teachers.

2 Literature Review

The Staff / Student ratio in education is a quantitative formula designed for determining the allocation of resources. An SSR represents the relationship between student and academic staff numbers in an academic institution and may be used to compare the average or expected resource distribution as against actual resources provided (Johnes and Taylor 1990). In 1993 the ENB recommended that the maximum acceptable ratio of nurse/health visitor teachers to students should be 1:15 excluding the Principal of the establishment and 1:10 for midwifery. It also proposed that colleges should be working towards a 1:12 ratio for nursing. It would appear that these initial targets were established under the auspices of the General Nursing Council and inherited by the ENB in 1983. There is no evidence to suggest that these targets were based on any form of analysis. Instead it would seem that they were developed as a result of a comparison with other sectors of general education, which in character most closely matched nurse training (Peat Marwick and McLintock 1989). The ENB has been concerned for some time that SSRs could appear to provide fixed targets which apply to all colleges. The 1993 guidelines were introduced with a view of moving towards a more flexible approach to the use of SSRs. This reflects the findings of Peat Marwick and Mclintock (1989) that the ENB targets have the potential for masking the ratios at individual colleges which may in reality be anywhere between 1:12 and 3:19 (Peat Marwick and McLintock 1989).

The concerns regarding the appropriateness of these arbitrary values have been provoked by the many changes that have beset nurse education since 1985. That year saw the introduction of Project 2000 (P2000) which paved the way for the amalgamation of different schools of nursing and midwifery. This resulted in the formation of colleges of nursing and midwifery, and the development of a wide variety of collaborative linkages between these colleges and higher education institutions. At about the same time, the publication of the Working Paper 'Education and Training' (Working Paper 10) of the White paper 'Working For Patients' (Department of Health 1989) resulted in the Regional Health Authorities (RHA), rather than the ENB funding pre-registration professional education and more recently post-registration education.

The importance of SSRs in this context derives from the fact that they appear to have been used by the ENB and other validating bodies as a measure of how well educational institutions are resourced (Peat Marwick and Mclintock 1989). Now that the RHAs manage the educational contract process it is possible that there could be a conflict of interest between those providing the funding and those involved in the educational process.

The few articles and books that do exist which discuss SSRs, predominantly focus on the methods used, in particular the types of components included in the calculation, in general education and nursing education and are presented in the following review. Since it appears that SSRs are used to allocate resources to colleges the following discussion addresses the potential effect the components have on the value of the SSR and the subsequent resource allocation.

1.2.1 Complications of using SSRs as a resource allocator

There are three main issues which complicate the use of SSRs as a resource allocator in nurse education. The first issue arises from the absence of a standard approach for calculating SSRs; the second from the ability to manipulate the figures of each of the component parts of a specified method of calculation in order to meet the prevailing resource philosophies and the third from the fact that the breadth of focus of the SSR calculation e.g. institution, department or course, can make a significant difference to the value of the SSR.

1.2.2 The absence of a standard approach and the potential effects of the lack of definition of the components included in the formulae

Although there does not seem to be a standard approach to calculating SSRs in nurse education, Narayanasamy (1992) has noted that the majority of nurse educationalists tend to divide the number of students by the number of staff. Since each of these components have not been clearly defined, nurse educationalists appear to be confused about which staff members they should include in the calculation. This was highlighted in a study commissioned by the ENB and undertaken by Balogh and Beattie (1988) who found that in course submission documents the staff component within the ratio varied, with some colleges referring to the 'funded establishment of teachers', others to 'the target establishment' while other colleges referred to 'the number of teachers in post'. However, Ellis (1986) argues that "staff : student ratios are usually expressed in relation to the staff establishment but that staff in post is closer to the reality of the situation and that in the computation of staff:student ratios there will be "an inevitable difference between staff establishment and staff in post, since institutions are likely to be over-committed on establishment on the assumption that all posts will never be filled". (Ellis 1986). This means that if the ratio is arrived at by dividing the student population by the staff population, as Ellis (1986) suggests currently happens when calculating ratios for the institution, then those who choose to include the staff establishment figures in the calculation will inevitably generate a lower SSR[1] than those who choose to include the staff-in-post figure. As a result of this it is impossible to compare the allocation of resources between colleges, and ensure equity in distribution of resources. However, it does mean that individual colleges can select which measurement of staffing (establishment, in post or target) to include in the calculation of their SSR to arrive at the ENB recommended ratio of 1:15 for pre-registration courses and 1:10 for midwifery courses (ENB 1990).

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[1] For the purpose of this report a high SSR is defined as a high number of students per teacher, a low SSR is a low number of students per teacher. In relation to the above targets this means that 1:15 is a high SSR value compared to 1:10.

The work of Ellis (1986) and Balogh and Beattie (1988) highlights that the absence of a standard approach for calculating SSRs in nurse education potentiates the inclusion within a formula, of different derivations of the same component e.g.(staff:-establishment, in post or target). In practice each derivation can independently generate a different SSR value. This means that the staff component selected may be the one that gives the colleges the most advantageous position in the attainment of resources (within a given context).

1.2.3 The potential effects of manipulating the figures in each of the components included in a standard approach.

This leads onto the second issue concerning the ability to manipulate the figures within each of the components of a specified SSR formula in order to meet the best interests of the user. For instance, Birch and Latchman (1979) contrasted the SSR formula as defined by the Councils and Education Press with the Burnham Further Education salary and conditions of work agreements and showed how the imperatives of policy determined how the formula was used. For example if the policy aspirations are to constrain expenditure then a higher SSR will be required. Using the SSR formula as defined by the Councils and Education Press[2] Birch and Latchman demonstrated that a College would need to:- enrol as many students as possible; teach in large class sizes; and require the teachers to work to the maximum class contact, dictated in their conditions of service, in order to implement the above policy. Conversely if it was the case, that the policy was to uphold the

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[2] S = the Full Time Equivalent (FTE) number of students;
T = the FTE number of teachers;
ACS = the 'Average Class Size';
ALH = the 'Average Lecture Hours'
(i.e. the typical teaching hours of a FTE teacher)
ASH = the'Average Student Hours'
(i.e. the typical taught hours of FTE students)
Then the teaching establishment required by a college is given by:
T = S/ACS x ASH x 1/ALH
and the Student / Staff ratio by:
SSR = ACS x ALH/ASH

Burnham (FE) salary and conditions of work agreements[3] then a college's self-interest would dictate that as many students as possible are enrolled; they are enrolled on courses at as high an academic level commensurate with student ability; that the students are taught for the maximum number of contact hours; in very small classes.

It therefore appears that in the absence of a standard approach for calculating the SSR different components are used to calculate the ratio each one making a significant difference to the value of the ratio. However even when a method of calculating the ratio is specified it is still possible to manipulate the figures of each of the components within the formula to the best interest of those who use it. All the aforementioned will have different implications on the resources demanded.

1.2.4 The effects on the value of the SSR of the different focus of the SSR calculation

Ellis (1986) considered that an SSR could be calculated for an institution as a whole; a department of the institution; a specified course conducted by the institution; or the relationship between students and professional staff, each focus generating a different ratio with different resource implications. For instance he argued that when SSRs are calculated on a departmental basis, often no acknowledgement is made of the fact that students on a particular course are taught by different departments. He suggested a more accurate approach would be to fractionalise FTE student numbers across departments which as a consequence would generate a lower SSR than if it was solely based on one department. It would also promote flexibility in the distribution of resource allocation across the whole institution. In addition he points out that when the focus of the SSR calculation is the course, it is often the case that teaching hours and lecture load constitute the components of the formula. This would mean that courses based on lecturing to the whole class would generate higher SSRs than those which have a greater proportion of seminars and tutorials. Since a course operating on a low SSR would necessitate more funds to conduct it, basing the calculation on teaching hours and lecture load has the potential for discouraging the use of tutorials and seminars which from an educational point of view could be a retrograde step.

Therefore this has the possibility of mitigating against the use of tutorials and seminars as a mode of teaching, since the low SSRs generated using the components 'teaching hours' and 'lecture load' would necessitate more resources and consequently more money to undertake the course.

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[3] Burnham agreements
- Many authorities determine a college's teacher establishment by reference to either last year's actual teacher class contact hours or next year's forecast class contact hours.
- The salaries of the principals, vice-principals and heads of departments are related to aggregated 'student hours in college' weighted by academic level.
- The higher the academic level the greater the number of senior teaching posts and, moreover, the higher the grades of the lecturers the fewer class contact hours they are required to provide.

1.2.5 Components of a formula have the potential for determining the mode of teaching

Billing (1979) made the point that SSRs based on staff / student contact hours discouraged the development of alternative modes of learning such as part-time students and distance learning since they would require more staff and consequently more resources. Billing's (1979) work has been echoed by other writers, including Cave et al (1991). Nursing and midwifery education has increasingly adopted an androgogical approach to teaching and learning (Fish and Purr 1991). This is derived from a growing body of research evidence and philosophical discourse attesting to the superiority of the humanistic model in professional education (Benner and Wrubel 1989). It therefore follows that SSRs appear to be a fundamental issue for nurse education both in terms of resource distribution, course planning, structure and philosophy.

1.2.6 The Relationship between the teacher's clinical links and the SSR

The ENB recognised the importance of teachers maintaining clinical links to enhance clinical credibility (ENB working party minutes on SSRs). One method that has been used in medicine to achieve this is SIFTR (Service Increment For Teaching and Research). This additional resource (SIFTR) is provided by the Department of Health and given to the RHAs which then distribute it. The objective of SIFTR is to compensate both hospitals and medical schools for the additional costs incurred in undertaking integrated educational and clinical links (Clack et al 1992). The King's model, which Clack et al (1992) devised for allocating SIFTR, calculates the clinical student load for each firm to enable the allocation of the teaching component of SIFTR. All lectures and practicals not situated in the patient areas have been excluded.

Recently the ENB introduced regulations that nurse teachers should be counted as 0.8 WTE to enable them to spend one day a week in the clinical area. However, as Luker et al (1993) have discovered, their role within the clinical area is not defined, varying from informing staff about curriculum developments through to facilitating the educational development of staff on the ward. The confusion highlights the difficulties of quantifying the amount of time teachers need to spend in the clinical area in order to maintain clinical credibility.

While the exact amount of time required in the clinical area is in dispute by nurse educationalists (Luker et al 1993), that a link is necessary is generally acknowledged. From the perspective of developing an SSR formula for nurse education a clear model such as the King's model for medicine needs to be agreed between all interested organisational bodies including the ENB, National Health Service Executive (NHSE) and the RHAs.

1.2.7 Summary

The above discussion indicates that the formulae used to calculate SSRs have implicit resource philosophies (Birch and Latchman 1979). Once it is recognised that all formulae have an implicit resource philosophy it follows that the selection of the components of the formula should explicitly reflect the predominant educational philosophy and desired educational outcomes.

SECTION TWO

2. PHASE ONE QUESTIONNAIRE

This section discusses the aims of the questionnaire, and results of the exploratory interviews, identification of prospective research participants, design and results of the pilot questionnaire, and the design, response rate and method of analysis of the main questionnaire. The initial aims of the questionnaire are derived from the ENB project specification document and are presented below.

2.1 Aims

1. **To provide an up to date analysis of the current methods employed by colleges of nursing and midwifery and higher education institutions to calculate staff:student ratios for ENB approved pre and post-registration courses in nursing and midwifery education.**

2. **To collect factual data to assist the Inquiry to consider:-**
   (i) the variability in SSRs
   (ii) the range of different methods used to measure SSRs.

As a consequence of the tendering process associated with the integration of colleges of nursing and midwifery with higher education institutions some colleges felt unable to disclose the information asked for in the initial survey, while they were involved in the process of tendering. The amalgamations and mergers of colleges and higher education institutions also made it difficult for the research team to meet one of the fieldwork objectives, which was to collect information on the actual numbers of staff employed and students studying in the targeted college. This was because the parameters of many of the colleges changed during the course of the survey, both through mergers and amalgamations of colleges nursing and midwifery with higher education institutions and the creation of joint appointments between lecturing staff at the university and the colleges. This made it difficult to design a user-friendly survey capable of collecting these data with any degree of accuracy. For these reasons the original aims of the research were altered. The initial questionnaire sent to all colleges of nursing and midwifery and higher education institutions was considerably shortened and designed to fulfil the first aim of the project and part two of the second aim, these are presented below.

1. **To provide an up to date analysis of the current methods employed by colleges of nursing and midwifery and higher education to calculate staff:student ratios for ENB approved pre- and post-registration courses in nursing and midwifery education.**

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2. To collect factual data to assist the Inquiry to consider:-
(i) the range of different methods used to measure SSRs.

2.2 Familiarisation strategy

In order to familiarise the research team with the range and depth of issues confronting this research, a series of exploratory semi-structured interviews were conducted with two Principals, three Vice-Principals and one Finance Director from colleges of nursing and midwifery and one representative from the ENB. The interviews were audio-taped with the permission of the interviewees. The aims of these exploratory semi-structured interviews were to ascertain the following issues:-

- The concerns expressed by the sample of nurse educationalists with regard to SSRs.
- The origins of funding for pre- and post- registration courses in nursing and midwifery.
- The methods used by the sample to calculate SSRs.
- The current ratio operating for pre-and post-registration courses in the sample colleges.

2.2.1 Results of the exploratory semi-structured interviews

Interview data revealed the high level of complexity surrounding the resourcing of nursing and midwifery education. Firstly, colleges receive a mixed arrangement of funding for nursing courses from the RHA, Department of Health, and income generated from independent hospitals, who purchase student places on post-registration courses. Secondly, there was a general lack of agreement by the interviewees concerning the types of components used to calculate SSRs. In addition some of the individuals, when asked "what method was used to calculate the SSR" sometimes gave the ratio as the answer, indicating their concentration on the outcome rather than the process of generating the ratio. A great deal of concern was expressed by the interviewees about the increase in travelling time between educational sites, as a consequence of the amalgamations which had resulted in an increase in the amount of cross site teaching. Some of the people interviewed felt that the ratio needed to be reviewed to accommodate the increasing amount of time teachers spent travelling between sites. Concern was also expressed about time for marking assignments, time for research, and staff development and some respondents were not sure whether this was fully accommodated in the current ratio. The interviews revealed a general dissatisfaction with the use of SSRs as a method for calculating resource requirements and reinforced the fact that SSRs are a major concern to nurse educationalists.

2.3 Initial identification of prospective research participants

On the 10th August 1993 a letter (Appendix 1) was sent to the total population of colleges of nursing and midwifery and the higher education institutions informing them of the proposed study and requesting them to assign the most appropriate person to complete a questionnaire, which they would receive in September 1993.

The rapidly changing environment of nursing and midwifery education described above has created a difficult situation within which to conduct this type of research. Initially the intention of the researchers was to target all colleges of nursing and midwifery and higher education institutions in England engaged in pre and/or post-registration nursing and midwifery education. However, the number of amalgamations taking place during the course of the survey meant that this target population diminished considerably during the research. (An estimation of the extent of these changes was undertaken, but because of the non response the figures are not accurate.)

At the start of the study the population was estimated to be 75 colleges of nursing and midwifery, and 56 higher education institutions which conduct ENB approved courses. This list was obtained from a booklet provided by the ENB containing the list of institutions approved to provide courses in nursing, midwifery and/or health visiting (ENB 1993b). As a result of the mergers of colleges of nursing and midwifery during the course of the study we estimate that the final population of colleges was reduced from 75 to 52.

2.4 Design of the pilot questionnaire

A pilot questionnaire (Appendix 2) was developed based upon a review of the literature on SSRs and the information obtained from the seven exploratory semi-structured interviews.

In accordance with the project specification this questionnaire focused on three areas of nurse and midwifery education these were:-

- Pre-registration nurse education.
- Post-registration nurse education.
- Midwifery education.

As each of these areas encapsulate a variety of courses a list of pre-and post-registration courses was included and the respondents were requested to consider only these when answering the questions. The list was obtained from the ENB Resources and Careers Department at Sheffield. The Pre-registration courses consisted of a finite list of eight courses these were:- Registered Sick Children Nurse, Registered General Nurse, Registered Nurse (Mental Health), Registered Nurse (Adult), Registered Nurse (Children), Registered Nurse (Mental Handicap).

There is a total of 156 different ENB post-registration courses. Two examples of the types of ENB courses were stated [ENB 100 General intensive care nursing, and ENB 249 Cardio-thoracic nursing] on the appended sheet. This was to ensure standardisation of the questionnaire and comparability of the results.

The pilot questionnaire contained closed questions relating to factors included and excluded from the SSR calculation. In addition, the pilot questionnaire asked for information on the WTE numbers of staff and students in post. This question was designed to elicit information on variations in the SSRs between colleges. There were also questions designed to elicit the funding arrangements and the geography of colleges of nursing and midwifery.

The open question was related to the factors thought to be important by nurse educationalists in relation to measuring SSRs.

2.4.1 Pilot sample

On the 16th August 1993 the pilot questionnaire was sent to five randomly selected colleges of nursing and midwifery and two higher education institutions together with a covering letter (Appendix 3), and comment sheets. Respondents were asked to return the questionnaire within two weeks in the stamped addressed envelope provided. The aims of the pilot study are presented below:-

- To test accessibility of the information required.
- To discover whether there were other sources available to obtain the information.
- To determine whether there was a need to restructure the questionnaire so that it had a closer fit with methods of collating and storing information currently used by the colleges and institutions.

2.4.2 Response rate of the pilot questionnaire

Only four out of a total of seven questionnaires were returned by the date requested. One college of nursing / midwifery sent a letter stating that due to the pressures of time they did not feel that the college could respond adequately to the pilot questionnaire.

2.4.3 Results of the pilot questionnaire

This pilot questionnaire highlighted a general lack of standardisation on the method used to calculate the SSR. This was indicated by three main factors. Firstly there were inconsistencies found among the responses as to which grade of teacher and type of activities to include in the calculation of SSRs (Table 1). All the respondents indicated grade 7 on the nursing teacher scale, was excluded, but there were clearly inconsistencies concerning the inclusion of the other grades. Inconsistencies were also found in the non-teaching staff included in the SSR (Table 2).

This was coupled with problems associated with defining the exact meaning used in practice of each of the role/ type of input listed in Table 2 as they were non-standardised. The colleges piloted received funding for the pre-post and midwifery courses from a variety of sources (Table 3). Finally, it appeared that some of the respondents had difficulty specifying the exact WTE student numbers of the college indicating that;- 'what is requested is difficult to provide', and 'It is difficult to calculate and give accurate data'.

Table 1 The number of colleges which indicated the inclusion / exclusion of each of the following teacher grades in the calculation of the SSR

Teacher grades	PRE-REG (4 responses were given in this section)		POST-REG (4 responses were given in this section)		MIDWIFERY (3 responses were given in this section)	
	YES	NO	YES	NO	YES	NO
Grade 7		4		3		3
Grade 6	1	1		1		1
Grade 5	3	1	3	1	2	1
Grade 4	3	1	3	1	2	1
Grade 3	4	----	4	---	3	---
Grade 2	4	---	4	---	3	---
Grade 1	4	---	4	---	3	---

Table 2 The number of colleges who indicated the inclusion / exclusion of each of the following activities in the calculation of SSRs.

Role/type of input	PRE-REG (4 responses were given in this section)		POST-REG (4 responses were given in this section)		MIDWIFERY (3 responses were given in this section)	
	YES	NO	YES	NO	YES	NO
Lecturer Practitioner	2	2	1	3	1	2
Clinical teacher	3	---	2	2	---	2
Outside speaker	----	3	---	3	---	2
AVA Technician	1	3	1	3	1	2
Librarians	1	3	1	3	1	2
IT Experts	2	2	2	3	2	1
Allocation officer	1	3	1	3	1	2
Clerical Staff	---	3	---	3	---	2
Non-nursing staff	---	3	---	3	---	2
Joint Appointments	3	1	2	2	2	1
Directorate	---	3	---	3	---	2

Table 3 Sources of funding for pre- and post-registration nursing and midwifery.

Source	PRE-REG (4 responses were given in this section)		POST-REG (4 responses were given in this section)		MIDWIFERY (3 responses were given in this section)	
	YES	NO	YES	NO	YES	NO
RHA	4	---	3	---	3	---
Independent hospitals/Health care organisations	1	2	3	1	1	1
NHS Hospital trusts	2	1	3	1	2	1
Government e.g. Direct funding from the Department of Health	1	2	2	1	1	1

In addition it was impossible to obtain any sense of the responses to the questions concerning the model and teaching philosophy adopted by the College. It was realised that this question was an indirect way of establishing the time spent on clinical and classroom teaching.

2.4.4 Summary of pilot study

The pilot study gave rise to a number of changes in the design of the main questionnaire (Appendix 4). This was predominantly as a result of the comments made by respondents about their inability to give accurate numerical data on the issues addressed in the pilot questionnaire, which could have lead to a low response rate had similar questions been included in the main questionnaire. These findings caused a need to rethink the design of the study in order to ensure a reasonable and accurate response. Consequently a decision was taken not to collect numerical data in the questionnaire as the accuracy of this data was questionable. Instead the aim of the main survey was narrowed and focused only on obtaining information on the different methods used to calculate SSRs. This enabled us to proceed much more quickly with this part of the research and provide time to undertake a more in-depth review of SSR calculation in selected centres of nurse education where significant innovative progress had been made in the calculation of SSRs. It was anticipated that the survey would highlight those colleges and higher education institutions where significant progress had been made in developing a robust SSR formula. These centres would be targeted for a more in-depth analysis of the development and implementation of their formula.

This would allow us to compare the use of the different formulae, identified in the survey, in practice. It would also offer the profession the opportunity to benefit from the substantial work already undertaken in some centres. The main study was designed to reflect this approach.

2.5 Design of the main questionnaire

The main questionnaire contained both closed and open ended questions. The closed questions related to a list of factors derived from the pilot study and the literature on the calculation of SSRs and the respondents were requested to indicate factors they included in their calculations. The introduction of this type of funnelling question (Oppenheim 1992) was initiated by the findings of the pilot study where the respondents gave a **ratio** in response to the question asking for the **formulae** used to calculate SSRs. We believed that by getting the participants to initially think first about the discrete components related to SSR calculation it would help them to clarify the distinction between formulae and ratios. The open ended questions aimed to explore other factors thought by the participants in the pilot questionnaires and exploratory interviews to be important in relation to measuring SSRs. In order to standardise this questionnaire, post-registration courses were further defined using the list of the post-registration courses obtained from the English National Board at Sheffield. Two categories of ENB courses were chosen:-

1) ENB courses > 40 days leading to ENB Post-registration award and a recordable qualification on the UKCC register (Total number 55, courses numbered 100-900)

2) ENB courses < 40 days leading to ENB post-registration award only (Total number 39, courses 901-998).

Both 'short' and 'long' post-registration courses were included. From each category the three most popular courses were identified. This information was ascertained from the ENB for post-registration courses and institutions.

Since all the courses in each category were conducted over the same length of time it did not matter which of the courses the respondents chose to answer. Because of the substantive changes made to the questionnaire a second pilot study was carried out which involved two randomly selected colleges of nursing and midwifery.

2.5.1 Pilot study of the main questionnaire

This questionnaire was piloted at two randomly selected (from the total number of colleges) colleges of nursing and midwifery. Both were returned and no amendments were required to this questionnaire, consequently this formed the basis of the main study questionnaire (Appendix 4)

2.5.2 Main questionnaire

This questionnaire was sent to all the colleges of nursing and midwifery and higher education institutions which offer ENB validated courses in the following educational areas:-

- Pre-Registration nurse education
- Post-Registration nurse education
- Midwifery education

A covering letter (Appendix 5) and a stamped addressed envelope accompanied the questionnaire and the respondents were given four weeks to respond. The respondents were assured that any information given on the questionnaires would be confidential i.e. their college / institution would not be identifiable to anybody outside the research team. A single reminder (Appendix 6) with a copy of the questionnaire was sent to the non-respondents after eight weeks.

2.6 Response rate of main questionnaire

Calculating the response rate for the main questionnaire was complicated by two fundamental factors. The first was the fact that colleges of nursing and midwifery were amalgamating with other colleges and integrating into higher education institutions during the course of the study. The second was that a number of respondents photocopied the questionnaire and omitted rewriting the reference number on the back. However, despite these problems the overall response rate, which includes both a response by letter and questionnaire was calculated to be approximately 66% for colleges of nursing and midwifery and 54% for higher education institutions.

Table 4 The response rate for the main questionnaire.

	No of QN's sent [ToT PoP]	Adjusted ToT POP due to amalgamation	No of responses via a letter	No of QN's returned completed	Response Rate % Letters & QN's
Colleges of nursing and midwifery	75	52	5	32	66%
Higher education institutions	56	56	23	7	54%
Total	131	108	28	39	59%

A total of 39 questionnaires from the overall total of 108 sent, were adequately completed and accepted for analysis, 32 from the colleges of nursing and midwifery and 7 from higher education institutions. The remaining respondents (n=28) returned letters explaining why they were unable to return the questionnaire. The reasons for non-participation are given in Table 5. These reasons highlight the politically sensitive nature and some of the contextual complexities surrounding this project.

Table 5 Reasons for non-participation in questionnaire.

Reasons for non-participation	college of nursing and midwifery / higher education institutions (28 Responses) 23 higher education institutions & 5 colleges of nursing and midwifery
Information not available	1 college of nursing and midwifery
Relevant courses not offered	1 college of nursing and midwifery
Pressure of work	1 college of nursing and midwifery
No reason given	2 college of nursing and midwifery
Information not available	2 higher education institutions
Relevant courses not offered	8 higher education institutions
Pressure of work	2 higher education institutions
Commercial / Political reasons	3 higher education institutions
Forwarded to the colleges of nursing and midwifery.	3 higher education institutions
No reason given	4 higher education institutions
Other	1 higher education institution

2.7 Method of analysis of the main questionnaire

A content analysis of the questionnaire responses resulted in the following categories of data:-

- The range of different formulae currently in use for pre-and post-registration nursing and midwifery education.
- The number of colleges using each type of formula for pre- and post-registration nursing and midwifery education.
- The range of components included in the calculation of SSRs by all the colleges for pre- and post-registration education and midwifery.
- Grouped colleges according to the number of components included in the formula.

These will be discussed in greater detail in Section 3 and the implication of these results for Phase 2 of the study.

SECTION THREE

3. THE ANALYSIS OF THE QUESTIONNAIRE

Tables 6,7,8,9,10 present the findings from the questionnaire. It is important to consider these findings in the context of the response rate. Table 4 indicated a similar number of replies from colleges of nursing and midwifery (37) and higher education institutions (30). Table 4 also indicates that the majority of colleges of nursing and midwifery were able to complete the questionnaire and responded in this form (32 out of 37 responses). However the majority of higher education institutions (23 out of a total of 30) responded in the form of a letter, indicating that the information requested in the questionnaire in relation to SSRs was unavailable and inappropriate within higher education (Table 5).

It follows that Tables 6,7,8,9,10 only have a final total of seven completed questionnaires from higher education. This seemingly low response rate reflects the irrelevance of SSRs, which were the focus of the research, in higher education institutions. Therefore, drawing comparisons between higher education and colleges of nursing and midwifery is not appropriate using the questionnaire data, but becomes the focus for analysis in the interview data.

The results of the questionnaire and the discussion relate primarily to colleges of nursing and midwifery which were the primary users of SSRs as a basis for staffing.

3.1 Factors identified as being included in the calculation of the SSRs

Tables (7 and 8) reflect the responses to question 1.1, 2.1, 3.1 and 4.1 *" In relation to the following (1.1)pre-registration, (2.1) (3.1) post-registration, (4.1) midwifery programmes, please TICK which of the following factors you currently include in your calculation of staff to student ratios ?"*

As discussed in section 2.5, this type of funnelling question (Oppenheim 1992) was introduced following the pilot study as a way of trying to elicit the component parts of the formulae used to calculate the ratios. As such, the results are difficult to interpret in that while there was some matching of factors ticked with those subsequently given in the formula, in many cases far more factors were ticked (see Tables 7 & 8) (maximum 21 factors ticked) than were given in the formulae in Table 6. Here the maximum number of factors used in any of the formulae is 6. Despite not being able to interpret the data generated by this type of funnelling question, Table 6 highlights that the responses given to the following questions (1.3), (2.3), (3.3), and (4.3) asking the participants to indicate the formula did result in formulae being stated rather than the ratios.

3.1.1 Methods utilised to calculate SSRs

Respondents from both the colleges of nursing and higher education institutions used a total of 17 different methods to calculate SSRs for pre-registration, and post-registration nursing (less than 40 days and greater than 40 days) and midwifery education as revealed in the responses given to questions 1.3, 2.3, 3.3, and 4.3:-

"If you answered yes to using a formula to calculate SSRs for (1.3) pre-registration, (2.3) and (3.3) post-registration and (4.3) midwifery, please give the equation"

Table 6 indicates that for the **pre-registration courses** 23 out of 32 colleges were able to give a formula indicating the method used to calculate SSRs for the nursing courses. 18 out of 32 colleges were able to give a formula for calculating SSRs for **midwifery**. Two higher education institutions and 5 colleges of nursing and midwifery gave the ENB recommended ratios of 1:15 for nursing and 1:10 midwifery rather than the formulae

Ten out of the total of 23 formulae given for nursing and 9 out of 18 formulae given for midwifery, utilised the method of dividing the total number of students by the total number of staff. No further definition of student or staff was given (i.e. there was no indication whether the staff were full-time or part-time and similarly with the student no definition of whole time numbers was given or any indication of the effect of wastage).

In contrast, Table 6 indicates that for those higher education institutions which gave a formula for the pre-registration nursing education courses (4 out of a sub-total of 4) and midwifery courses (1 out of a sub-total of 3) specified the components used in the formula in terms of contact hours, student load and WTE or FTE staff / students. It would seem that those higher education institutions that did calculate SSRs, did so by defining the components they were using more precisely, than the colleges had done. This is explored in more detail in the discussion of the interview data (section 5) where it is suggested that this arises from the difference in the funding base in the two different types of organisations.

Table 6 indicates that for **post-registration courses** of less than 40 days, only 11 out of 32 colleges gave a formula for the calculation of SSRs. For courses greater than 40 days 12 out of 32 gave a formula for calculating SSRs. In contrast 3 out of 7 higher education institutions gave a formula for calculating SSRs for courses less than 40 days and 3 out of 7 gave a formula for courses of more than 40 days.

Table 6 also highlights that none of the respondents gave a ratio for post-registration courses, in response to the question requesting a formula. This is in contrast to the pre-registration and midwifery courses. It is possible that this finding reflects the absence of an ENB recommended SSR for post-registration courses, an issue which is explored in more detail in the analysis of the interview data.

Overall there was a higher response in relation to an indication of types of formulae used to calculate SSRs for pre-registration (4 out of 7 from higher education and 23 out of 32 colleges of nursing and midwifery) and the midwifery courses (1 out of 7 from the higher education institutions and 18 out of 32 from the colleges of nursing and midwifery) compared to both types of post-registration courses. For these courses there were far more colleges and higher education institutions who answered 'NO' in response to 2.2 & 3.2 *"Do you use a mathematical equation / formula to calculate your SSR for the post-registration course you have indicated in question (2.1)?* and returned the questionnaire with that section blank. This may reflect the fact that SSRs may be irrelevant when designing a post-registration courses, an issue which is explored further in the interviews. Those that did answer 'NO' were given the opportunity in questions 1.4, 2.4, 3.4 and 4.5 to *"Describe what they did to check that they have an SSR of [e.g. 1:15, 1:14, 1:13] on the pre-registration course the post-registration course (greater than 40 days, less than 40 days) and the midwifery course ?"* Only 4 responses were given to this question and all in relation to the post-registration courses. A number of different factors were used to check the SSR ratio, these included: 1) the identification of a specific teacher for a course, 2) a description of how teacher workload was calculated based on ENB requirements, 3) number of students, 4) location of clinical placements and 5) comparisons of teacher activities.

3.1.2 Methods used to calculate WTE

Respondents were also asked to indicate the method they used for calculating WTE **question (5.1) 'If you have ticked that you include the Total number of WTE Staff or Students in the calculation of the SSRs please could you indicate how you calculate WTE?' Tables 9 and 10** show that different methods are used by educationalists for calculating WTE staff / student. It can be seen that 37.5 hours per week = 1 WTE in both tables received the majority of responses from the colleges of nursing.

Table 6 The formulae used to calculate SSRs for pre-registration and post-registration nursing and midwifery education courses and the number of colleges of nursing and midwifery (C) and higher education institutions (HE) using each type of formula.

Type of Formula = Ratio	n = 39 Pre-reg		n = 39 Post-reg				n = 39 Midwifery	
			40>		40<			
	HE	C	HE	C	HE	C	HE	C
Total No WTE Students / Total No WTE Staff	1	4	1	4	1	1		4
Total No Students / Total No Staff		10		4		6		9
Total No Students / Total No Staff Excluding Principal		3						
Total No Students / Total No Staff Less 10% for leave & 0.5 WTE Travel		1						
FTE Students / FTE Staff		1						
Total No Students / Total No WTE Staff	1	3		1		1	1	4
Projected Average No Students / WTE Staff		1						
Total No Students / Total Staff Contact Hours / 450	1							
Total number of Students / Number of staff employed for the 18 - 12 programme								1
Total hours of contact per year & the proportion of these hours taught by varying department are calculated. Time divided up e.g. Psychology dept 0.8 e.t.c These fractions are then weighted by the No of Students in the year with weighting 0.5 PT or 1 FT The total for each year is added this = student load per department Student load = Ratio No FTE staff	1							
1 WTE teacher available 0.8 for teaching SSR : WTE teacher x 0.8 No of students completing programme pa / 2 (2 ENB 100 progs run per annum each 24 weeks in length)				1				
1 academic course day = 1.2 person days includes clinical teaching and clinical input 1 teacher per 1000 person days = ratio					1			
1 academic course day = 1.4 person days (covers all teaching & clinical input by lecturers 1 teacher per 1000 person days = ratio			1					

Table 6 Cont'd

Type of Formula	n = 39 Pre-reg		n = 39 Post-reg 40>		40<		n = 39 Midwifery	
	HE	C	HE	C	HE	C	HE	C
Total contact hours required Hours available for one WTE lecturer Post basic courses utilise shared learning strategies e.g. core modules Lecturers (Lecturer plus Senior lecturer) contracted average 550 hours per annum, approx. calculated by:- Total hours contact = No of WTE Lecturers required. 550			1		1			
Course Annual No contact hours = No Lecturers required to teach Lecturer Annual contact hours				1		1		
FT student expect to achieve 120 credits ENB 100 course yields 60 credits Formula = 60 x 10 students = 600 credits = 5 FTE 120 credits pa credits per course x No of students on course = FTE 120				1		1		
1 WTE Teacher available 0.8 for teaching WTE students calculated by:- No of Days of programme /225 x No of students. e.g. course with 100 students per year 20 days 20 x 100 = 200 = 0.8 students. 225 225 Ratio then WTE student						1		
SUB-TOTAL	**4**	**23**	**3**	**12**	**3**	**11**	**1**	**18**
Nothing Reported (Blank)	1		1	5	1	3		3
Answered 'NO' to the use of a formula		4		8		14		
No courses run			3	4	3	1	4	6
Inappropriate response[4]				3		3		
Ratio given as the formula (1:15 or 1:10)	2	5					2	5
TOTAL	**7**	**32**	**7**	**32**	**7**	**32**	**7**	**32**

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[4] **College 1** " Work going on closely linked to modularisation and costing, information not yet available".
College 2 "Unable to answer, institution offers all courses but no students undertaking them".
College 3 "The pathway consists of common core modules e.g. educational studies, research studies and specialist practitioner module e.g. intensive care, accident and emergency. The common core modules only run when a minimum of 15 students enrol, the specialist modules are offered for a minimum of 5 enrolled students, specialist modules could be offered for smaller numbers if the market would stand the price.

Table 7 The number of factors colleges of nursing and midwifery and higher education institutions use to calculate SSRs for pre-registration and post-registration nursing and midwifery education courses.

Number of factors (marked as being used)	**Pre-registration** No HE & College which marked between 1-21 factors		**Post-registration** No HE & College which marked between 1-21 factors				**midwifery** No HE & College which marked between 1-21 factors	
			40>		40<			
	HE	C	HE	C	HE	C	HE	C
1							1	
2	2	12		8	1	8	2	8
3	1	1	1	3		2		3
4		5			1	2		3
5			1		1			1
6		2		2		3		1
7						1		2
8		2		1		2		3
9		2				1		1
10				2				1
11		1		1				
12		1	1	1				
13		1			1			1
14	1							
15	1							
16								
17		1				1		
18								
19								
20						1		1
21				1				
SUB-TOTAL	**5**	**28**	**3**	**19**	**4**	**21**	**3**	**25**
Course not run			1	4	1	1	2	5
Nothing reported (Blank)	2	2	3	7	2	7	2	2
Inappropriate Answer		2		2		3		
TOTAL	**7**	**32**	**7**	**32**	**7**	**32**	**7**	**32**

Table 8 The types of factors used to calculate SSRs for pre-registration and post-registration nursing and midwifery education courses and the number of colleges and higher education institutions using each of the factors

Type of factors (marked as being used)	Pre-registration		Post-registration 40>		40<		Midwifery	
	HE	C	HE	C	HE	C	HE	C
Total No of teaching staff	1	14		8		9		13
Total No of Students	3	18	2	10	3	13	2	14
Total No of WTE teaching staff	5	24	1	11	1	11	2	19
Total No of WTE Students	5	19	1	7	1	9	1	16
Total No of teaching weeks	2	5	1	7	1	7		5
No of Training years in the programme	2	4		1	1			4
No of weeks per year	2	6	1	6	1	7		3
Average class size in the programme	1	2		6	1	9		6
Average Lecturers hours in a day	1	6		1	1	2		2
Average lecturers hours in a week	1	8	1	2	1	3		2
Average lecturers hours in a year	2	5	1	5		4		3
Average student hours in a day		4		2		2		3
Average student hours in a week	1	2	1	3		3		2
Average student hours in a year	1	3		2		3		2
Total staff contact hours	2	10	3	5	4	7		9
Total staff contact hours in lectures	2	5	2	2	3	4		7
Total staff contact hours in seminars	2	4	2	2	2	4		7
Total staff contact hours in tutorials	1	2	1	2	1	3		3
Total staff contact hours in clinical areas	2	5	2	7	3	5		10

Table 8 Cont'd

Type of factors (marked as being used)	Pre-registration		Post-registration				Midwifery	
			40>		40<			
	HE	C	HE	C	HE	C	HE	C
OTHER FACTORS SPECIFIED No of different courses lecture on		1				1		1
Contracted hours per lecturer (FT).			1					
Two courses per year				1				
Ratio of qualified to unqualified teachers				1				
Contracts for course places				1				
Travel time				1		1		
Clinical supervision				1				
Credits per course				1		1		
No courses per year						1		
Geographical location of courses						1		1
Service contracts for course places						1		
No courses run per year						1		
In-Service Training								1
Contribution to pre-reg education								1
Average students throughout the year								1
Personal teacher time								1
Examination assessment								1

Table 9 The calculation of WTE Students

Calculation of WTE Students	No of Respondents College of nursing & midwifery	No of respondents higher education
37.5 hours per week = 1 WTE	3	1
Full time Students = 1 WTE	1	2
Number of students enrolled in each week of the year are totalled & divided by 52 to give the average FTEs for the year	1	
$\frac{\text{No of students (headcount) x contracted Hrs (weekly) x 52}}{\text{course in weeks}} = \text{WTE}$	1	
Pre-reg Full Time student = 1WTE Post reg- based on an assumption that a WTE student undertakes 8 modules at 120 credits per year all our courses are accredited so each part time student is calculated from that. e.g. 20 credits course with 10 in the class equates to 3.2 FTE students	1	
Projected average No taken from Regional contracts for the forthcoming year.	1	
No of FT students & numbers of Part Time students calculated at 0.4 WTE. Short course students (998) are calculated as a % of WTE depending on actual hrs taught including clinical teaching hours.		1
Pre-reg WTE= straight forward summation of Total entries to Register student numbers Post-reg WTE is more difficult requires more detailed calculations, based on the length of the course.	1	
WTE= 30 hrs per week for 45 weeks per year + 7 weeks holiday	1	
35.5 hrs per week = 1 WTE & any additions of part time hrs are defined in WTE or parts there of.	1	
SUB-TOTAL	**11**	**4**
Inappropriate response[5]	2	
Not Reported (Blank)	19	3
TOTAL	**32**	**7**

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[5] **College 1** No calculation given as all pre-registration are WTE
College 2 stated the approximate numbers of WTE students for the pre and post-registration courses and not the calculation.

Table 10 The calculation of WTE Staff

Calculation of WTE Staff	No of Respondents College of nursing & midwifery	No of Respondents higher education
$\frac{\text{Hours worked}}{37.5} = \text{WTE}$	1	
37.5 = 1 WTE	5	1
$\frac{\text{Yearly Contract hours}}{450} = \text{WTE}$		1
$\frac{\text{*Number of weeks employed per year}}{52} = \text{WTE}$	1	
WTE = Based on working hrs in employed contract	1	
WTE = On the basis of a full time week of 37.5 hrs, hence 18.75 hrs per week.	1	
$\frac{\text{Actual Hours}}{\text{37.5 hrs (full time)}} = \text{WTE}$	1	
Financial formula - WTE = 37.5 hrs	1	
WTE = Based on staff contracted time for each course	1	
$\frac{\text{No of students x contracted Hrs (weekly) x 52}}{\text{37.5 (standard contract)}} = \text{WTE}$	1	
$\frac{\text{No of weeks per annum teachers employed}}{52}$	1	
35.5 hrs per week = 1 WTE any additions of part time hours are defined in WTE.	1	
$\frac{\text{Hours worked}}{37.5} = \text{WTE}$	1	
WTE = numbers of staff & fractional appointments (pro-rota) = part time staff calculated as % of WTE by using their % of teaching hours in relation to the norm, 500 per year.		1
WTE = Calculated on number of hours lecturer is contracted to work per academic yr WTE = 550 hrs (contact time).		1
WTE = Calculate - numbers of hours per week worked - as a portion of Full Time hrs.	1	
WTE = Straight forward addition of teaching staff No , pro-rota for part time staff excluding the principal.	1	
1 WTE as Full Time hrs i.e. 37.5. Therefore a member of staff=working 15 hrs = 0.4 WTE	1	
WTE = 37.5 hrs per week for 45 weeks per year + 7 weeks holiday	1	
SUBTOTAL	**20**	**4**
Inappropriate response	2	
Not Reported (Blank)	10	3
TOTAL	**32**	**7**

*Teachers employed specifically from funding for particular courses

3.1.3 Other issues related to SSRs

Nurse educationalists were also given the opportunity to write freely about any other issues associated with the SSR calculation - **question 5.2 'Are there any other issues about SSRs that you feel are important?'**

There was a total of 23 non-responses and 16 (4 from higher education institutions and 12 from colleges of nursing) responses to this question. The responses varied from the suggestion of different approaches to calculating SSRs, to a list of factors deemed important by the respondents when calculating SSRs such as:- travel, staff development, marking time, clinical teaching load. Perhaps the most significant distinction which could be made between these responses was whether they were advocating greater standardisation and uniformity in the calculation of the SSR, or whether they were arguing for a more flexible approach which would reflect the particular needs of different colleges of nursing and midwifery.

Some of those who argued for a more standardised approach to the calculation of the SSR did so on the grounds that this would enable clearer comparisons to be made between colleges of nursing and midwifery:

"There should be nationally accepted guidelines on the calculation of SSRs for the statutory bodies, purchasers and providers of education to facilitate common understanding and minimum expectations! Staff contracts should broadly identify what is required in a working week in relation to many of the educational / administration activities. This will facilitate the "value for money" activity which purchasers and students have the right to expect and assist the confidence building required in negotiating and agreeing SSRs."

(College of nursing and midwifery (9))

Others advocated standardisation of the SSR on the grounds that it would help in understanding the issues surrounding the staffing of courses:

"I would welcome a recommended standard approach. This will enable all to understand what the ratios actually mean. How to calculate senior staff in ratios (these with remission of contact hours is difficult. The demands of the curriculum in terms of e.g. assessment are also critical in determining what are appropriate ratio ought to be for a given course."

(College of nursing and midwifery (2))

Other respondents, however, argued strongly for greater flexibility in the way in which the SSR should be calculated and defined, arguing that the SSR should reflect the complexities of individual centres:

"I suggest that in calculating the teaching staff required should be carried out by a different approach which does not result in a standard ratio. In this approach it would be necessary to undertake a detailed study of each course and quantify lecture hours, seminar hours, curriculum planning and organisational hours and then for each teacher agree teaching load, clinical teaching load, marking, planning and tutorial load, and transform to hours. The hours needed per course could then be matched to teacher hours available. I consider that some senior teaching staff should be excluded from the ratios, the ENB currently only exclude the principal. The method I suggest overcomes this problem since teaching loads would be lower for senior staff."

(College of nursing and midwifery (4))

Others recommended that a more flexible approach would confer economic advantages:

'To start from a bottom up costing exercise, thus enabling the college to price courses, academic level teacher time etc. Such an approach would enable the college to raise income to meet expenditure in terms of pay, non-pay, overheads and capital charges."

(College of nursing and midwifery (Site no 1))

Intriguingly, one response received suggested that both standardisation and flexibility could be combined in the planning and resourcing of courses:

"This is a very complex issue- we obviously need a baseline to estimate workforce needs and the crude ratio is just that. Other factors such as travel time, distance between sites, size of groups have to be taken into account. However, in my experience the crude ratios are the most useful in terms of planning and contracting, and dealing with down sizing of organisations or rationalisation of courses. Detailed course planning needs to take account of other issues e.g. number of contact hours etc.

(College of nursing and midwifery (3))

These responses indicated a level of interest in the area which would facilitate future data collection, but also made an important contribution to the development of the interview schedule and to the analysis of interview data. Not only did the range of additional variables suggested indicate the complexity of calculating the SSR, but the responses also illustrated that there is a tension in the data between developing more centralised approaches to calculating the SSR or alternatively allowing for more flexible approaches to calculation in response to local needs.

3.2 Summary and discussion of the findings from the questionnaire

The results of the questionnaire revealed that a variety of different methods are used by nurse educationalists to calculate the SSRs for the pre- and post-registration nursing and midwifery courses. The data indicates that the most frequently used formula by colleges of nursing and midwifery was total number of students divided by the total number of staff. The other components used in the formulae were variations of the components of staff and student such as:- WTE staff / students, average number of students, projected average number of students, student load, contact hours, clinical contact, leave and course credits. The results indicated that of those higher education institutions which did respond to the questionnaire the majority gave formulae that specified the type and the way in which the total number of staff and students were calculated. However the low response rate to the questionnaire from higher education institutions indicates that SSRs may not be an appropriate focus for research into staffing levels within higher education. Given the current integration of nursing into higher education, it is an important issue which was explored further during the interview phase of the research.

The data also highlighted that while the majority of pre-registration courses utilised some sort of formulae to calculate SSRs, a sizeable minority of post-registration courses did not. This indicates that the absence of a ENB recommended SSR for post-registration courses, has given rise to a variety of alternative methods of identifying the appropriate staffing levels for these courses. This finding indicated the need for further in-depth investigation of the costings of post-registration nurse education, which was undertaken in the interview phase of the research. The study also indicated disparities between the factors ticked by respondents for inclusion in the SSR calculation and the actual number of factors included in the formulae. In fact none of the formulae given in response to questions 1.3 2.3, 3.3, and 4.3 contained more than six components, despite the fact that some respondents indicated the inclusion of up to 21 factors in answer to question 1.1, 1.2, 1.3 and 1.4. While this data is difficult to interpret it does seem to indicate that respondents felt it was important to include a greater range of factors in the calculation of SSRs than is currently the case. However, the smaller number of factors actually included highlights the difficulty of developing and operationalising complex formulae which contain a large number of factors. This again required further exploration in the interview phase of the research.

Finally, the study was unable to establish whether the colleges of nursing and midwifery and higher education institutions with a strict method of calculating the SSRs had developed their method for a course, department, or institution which as described by Ellis (1986 p 48) has a significant effect upon the final ratio obtained.

The results from the questionnaire have provided a contemporary analysis of the current methods being used by educationalists in both of higher education institutions and colleges of nursing and midwifery to calculate their SSRs from a small sample of higher education institutions and larger sample of colleges and institutions in defining the SSR. A small number of colleges and institutions are showing evidence of developing formulae where the different types of components used have been defined.

This first phase has focused attention upon the need to target a sample of colleges of nursing and midwifery and higher education institutions to obtain more information which will assist in producing:-

- **A report which identifies an appropriate theoretical basis for further examination of SSRs in relation to the issues of resource management and academic management. (The third research aim)**

SECTION FOUR

4. PHASE TWO SEMI-STRUCTURED INTERVIEWS

This section discusses the **selection of the sample, organisation, conduct and analysis of the semi-structured interviews** which form the second phase of this research. The aim of this phase is derived from the ENB project specification document and is presented below.

4.1 Aim

1. To produce a report which identifies an appropriate theoretical basis for further examination of SSRs in relation to the issues of resource management and academic management.

4.2 Criteria for the selection of the sample sites for the semi-structured interviews

The literature review and the ENB working party minutes revealed that there was some confusion surrounding the calculation of SSRs. Much of this, however, was based on anecdotal evidence and the project specification, therefore, highlighted the need to collect substantive evidence about the way in which SSRs were being calculated, as a platform for further development. The proposal to undertake a descriptive postal survey of current practice in relation to the calculation of SSRs was designed to fulfil this aim. The steering committee recognised that this type of survey would simply reflect the confusion that currently exists and be unable to provide detailed information about current practice. While it is important as background information, on its own such information was unlikely to provide a foundation for the development of future policy in relation to SSRs. Given this situation, a decision was taken by the Steering Committee to gather more detailed information from institutions which appeared, from the initial survey, to have made some progress in relation to the development of SSR formulae. This would enable identification of how these developments worked in practice and permit dissemination of the experiences of those colleges to assist others.

4.2.1 Deriving a purposeful sample

This purposeful sample of six sites were identified for further in-depth interviews based on criteria of innovation derived from the results of the postal survey .

The first criterion focused on the number of factors included in the formula used to calculate the SSR. An analysis of the questionnaire data indicated that most colleges and institutions used only two factors:- total number of students divided by the total number of staff. There was, however, a minority which gave variations on this theme or which had developed more complex formulae which incorporated more than two factors [this was examined for pre-registration courses, post-registration nursing courses and midwifery courses]. This minority were considered by us as the developers of SSR formulae for the purposes of this research.

The second criterion used was derived from the open ended question asking for additional comments. A wide variety of comments were given. Sites were selected on the basis of comments which indicated that some attempt had been made to begin to address some of the complexities associated with the calculation of SSRs.

Ensuring breadth in the selection of site.

It was important to ensure that the sites included characteristics which were appropriate to the range of different types of educational institutions. The following criteria were incorporated in the selection process. These criteria reflected contemporary developments in nurse education as well as reflecting an initial concern raised in the project specification about the different SSR for nursing as well as midwifery.

- A minimum of 2 sites providing midwifery courses.
- A minimum of 2 higher education institutions.
- A minimum of 2 sites to have identified in the questionnaire, the negotiations with the RHA concerning the SSR formula.
- A minimum of 2 sites not yet fully integrated within a higher education institution.
- A minimum of 2 sites fully integrated within a higher education institution.

The criteria used to select the sites reflected the initial aims of the research, which were to investigate SSRs in pre and post-registration nursing and midwifery education. Therefore both institutions and colleges of nursing and midwifery were included in the sample. The criteria used to select the sites also included reference to the negotiations with RHA about SSR funding as this was a new and potentially important development.

4.2.2 Sampling plan

A matrix (Table 11) was generated to identify colleges of nursing and midwifery and higher education institutions which most closely matched the above criteria[6].

The coding A_1 A_2 and A_3 represented the first criterion specified above and was used to classify colleges of nursing and midwifery and higher education institutions according to the complexity of the formula given (see key table 11 for definitions A_1 A_2 and A_3).

The coding B_1 B_2 and B_3 represented the second criterion specified above and was used to classify colleges of nursing and midwifery and higher education institutions according to the response given to the open ended question (see key table 11 for definitions of B_1 B_2 and B_3).

Those colleges of nursing and midwifery and higher education institutions showing both minimal development of the SSR formula (A_3) and who gave a minimal response to the open ended question (B_3) were excluded from the sample.

This left 12 respondents who were then reviewed to select a sample that incorporated the criterion identified in relation to breadth, this provided sub-groups meeting specific criteria for instance all those colleges that mentioned an RHA formula. From this, with each sub-group we selected those that indicated the greatest number of in-depth criteria. Using this matrix of characteristics we arrived at a sample of six sites providing a high degree of innovation as well as breadth of course provision and organisational structure.

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[6] Table 11, presents a selection of colleges of nursing and midwifery and higher education institutions from the total number of 39 questionnaires returned, to illustrate the method used to select the six interview sites.

Table 11 Matrix indicating the criteria used to select interview sites

College HE Site No	Organisational structure	Pre-Reg innov formula	Post-Reg innov formula	Midwifery	Regional Health Authority	Insightful comments	Sites Selected
1	L	A_3	A_3	✗	✓	B_1	•
2	L	A_2	A_1	✓	✗	B_2	•
3	L	A_2	A_2	✓	✓	B_2	
4	L	A_3	A_3	✓	✗	B_2	
5	L	A_3	A_3	✗	✗	B_3	
6	L	A_3	A_3	✓	✓	B_2	
7	HE	A_1	A_3	✗	✗	B_1	•
8	L	A_3	A_1	✓	✗	B_3	
9	L	A_3	A_3	✓	✓	B_2	
10	HE	A_2	A_3	✗	✗	B_2	•
11	HE	A_2	A_2	✓	✗	B_2	
12	L	A_1	A_1	✓	✗	B_2	•
13	L	A_3	A_3	✓	✓	B_3	
14	fi	A_1	A_1	✓	✓	B_1	•

KEY

L = Linked (a college of nursing and midwifery linked to a higher education institution)

fi = Fully integrated (a college of nursing and midwifery fully integrated within a higher education institution)

HE = Higher Education

✓ = Course offered

✗ = Course not offered

* = Six sites selected for interview phase

Questions 1.3, 2.3, 3.3, and 4.3 "If you answered yes to using a formula to calculate SSRs for (1.3) pre-registration, (2.3) and (3.3) post-registration and (4.3) midwifery, please give the equation", were coded using the following criteria:

A_3 = Assigned if a college or institution had given the formula total number of students divided by the total number of staff.

A_2 = Assigned if the college or institution had given a variation of the total number of students divided by the total number of staff e.g. stated the inclusion of WTE students or staff.

A_1 = Assigned if the college or institution had included three or more components in the formula.

Question 5.2 "Are there any other issues about SSRs that you feel are important?", was coded using the following criteria:

B_3 = Assigned if the college or institution did not give any comments to the question asking for other issues considered important when calculating SSRs.

B_2 = Assigned if the college or institution provided a discussion of the factors they would like to see included in a formula, but did not indicate how this was done.

B_1 = Assigned if problem solving ability had been demonstrated i.e. if the college or institution gave a proposed solution on how to calculate SSRs.

4.2.3 Sample

The sample included six sites, a description of each site is given below.

4.2.4 Description of interview sites

The following descriptions represent the organisational structure of each of the colleges of nursing and midwifery and higher education institutions at the time of the study. As a result of the numerous changes that currently beset colleges of nursing and higher education institutions we acknowledge that there is the possibility that the following description may change.

SITE NO. 1
Is a large college of nursing and midwifery situated on the periphery of a large city. It is affiliated to a local University with whom it works in partnership. A process to fully integrate the college of nursing and midwifery into higher education has just commenced. The college has numerous campuses and clinical placements spread over a large urban and semi-rural area.

SITE NO. 2
Is a large college of nursing and midwifery situated within the boundaries of a large city. It is linked and in the process of fully integrating with a large established higher education institution in the city. It has recently undergone a merger with another college of nursing and midwifery. As a consequence it has several college sites and clinical placement areas spread over a large urban area.

SITE NO. 12
Is a medium sized, city based, college of nursing and midwifery. It is linked to the higher education institution in the city, which is a new university, and plans are in operation to fully integrate within the higher education institution in the near future. It is a single site college, which has not yet merged with any other college of nursing and midwifery. It is situated in close proximity to the clinical placements.

SITE NO. 10
Is a large higher education institution, which is one of the ex-polytechnics (new universities) situated within the boundaries of a large city. The department offers wide range of academic and professional courses, mostly at degree and postgraduate level, and has close collaborative working relationships with local health care providers and purchasers and with the RHA.

SITE NO. 7

Is an old established university situated within the boundaries of a medium size city. The department is responsible for the provision of a wide range of academic and professional courses, mostly at degree and postgraduate level.

SITE NO. 14

Is a college of nursing and midwifery which has been fully integrated within a higher education institution for approximately eighteen months. Prior to integration it had undergone a number of mergers with other colleges of nursing and midwifery. It is situated on the periphery of a large city. The clinical placements and college sites are dispersed over a wide urban geographic area.

The number of each type of staff interviewed from the six sites is detailed in Table 12.

Table 12 The total number of each type of staff interviewed

Type of staff interviewed	Total number of each of the staff interviewed (Total number of 10 staff interviewed)
Principal	2
Dean, Faculty of Health	1
Director of nursing studies	1
Head of Department	2
Vice Principal	1
Director of Life Studies	1
Finance Director	1
Support Services Manager	1

4.3 Contact and negotiation of consent with prospective participants

The principals from the colleges of nursing and midwifery, Heads of Department / Deans from the higher education institutions were sent a provisional fieldwork agenda (Appendix 7) together with a letter explaining that they had been selected to take part in the second phase of the research and asking whether they would be prepared to take part in individual and group interviews. Proposed interview dates and times were specified on an accompanying form (Appendix 8).

4.4 Development of questions on the interview guide

In relation to the aims and the fieldwork objectives outlined in section 1 it was decided that the semi-structured interviews should address two broad topics derived from the literature and from comments made in the postal survey.

1. METHODS OF COSTING A COURSE
2. THE QUALITY ISSUES

Questions 1, 2, 3, 4, 5, 6, 10, 11 and 12 aimed to:-
EXPLORE IN-DEPTH RESOURCE MANAGEMENT ISSUES

1. Why do you use the formula you stated on the questionnaire?
2. How useful do you find this formula in the attainment of resources?
3. At what level is it used; course, department, institution?
4. What is the college's / Faculty SSR using the formula you have stated?
5. If you were an English National Board officer validating a course in this college, what criteria would you use to satisfy yourself that this course has adequate resources?
6. What do you consider when identifying human resources on a specific course?
10. Is it the practice of the college to deploy staff across programs, if yes how do you account for this?
11. How are you addressing the issue of counting a nurse teacher as 0.8 WTE?
12. Are there any inter and intra course differences?

Questions 7, 8, 9 and 13 aimed to :-

EXPLORE IN-DEPTH ISSUES ASSOCIATED WITH THE QUALITY OF EDUCATION.

7. Have you done a skills analysis and identified a skills deficit? If not have you strategic objectives that you are working to?
8. How would you know you had a skills deficit? If you did have a deficit what can you do to resolve it?
9. What if any teaching resources do you need to buy?
13. From the information systems you have in this college, how far would you be able to provide accurate information on the criteria you have identified as important in question 5?

4.5 Response rate

All six sites selected for inclusion were willing to take part.

4.6 The type of semi-structured interviews undertaken

The original intention of this second phase was to undertake a number of individual interviews with key stakeholders. The themes derived from the individual interviews were to be fed back in a group interview for further comment.

We found however, that due to the short time period available for the interviews the participants were only able to take part in either the individual or group interviews, and not both. We therefore conducted individual or group interviews as detailed in Table 13. We then sent the transcripts to the participants and invited written feedback.

4.7 Conduct of the semi-structured interviews

Since SSRs and their relationship with resource issues is an extremely sensitive and complex subject it was stressed at the beginning of each interview that any information the participants gave, would be confidential. Two members of the research team were present at each of the six interviews; one to ask the questions and the other to take responsibility for taping and probing further, the participants' answers. This allowed us to clarify interesting and relevant issues raised by the participants, in effect two heads are better than one.

The interviews were tape recorded on the participants' permission, and lasted between one to two hours with a short break for refreshments. Two - three weeks following the interview, a letter and a copy of the verbatim transcript was sent to the participants thanking them for taking part in the interviews and giving them the opportunity to add / clarify or remove any comments in the transcript. This gave the participants the opportunity to make amendments to the transcript, and to provide the research team with feed back on the content of the transcript.

Table 13 The type and the number of interviews at each of the interview sites

Type of Interview	The total number of each type of interview performed (Total number of 6 interviews performed)	Interview sites (Total number of 6 interview sites)	Number and type of staff interviewed at each site (Total number of 10 staff interviewed)
Individual interview	3	1 College of nursing and midwifery 1 College of nursing and midwifery integrated within higher education 1 higher education institution	1 Principal 1 Dean, Faculty of Health 1 Director of Nursing Studies
Group interview with 2 people	2	1 College of nursing and midwifery 1 Higher education institution	1 Vice Principal, and 1 Finance Director 1 Head of Department of Health, and 1 Head of Department Social Sciences
Group interview with 3 people	1	1 College of nursing and midwifery	1 Principal 1 Director of LifeStudies 1 Support Services Manager

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SECTION FIVE

5. THE ANALYSIS OF THE SEMI-STRUCTURED INTERVIEWS

5.1 INTRODUCTION

This section presents the findings from the analysis of the semi-structured interviews. It should be noted that the following analysis should not be taken as being fully representative of the opinions amongst all the nurse educationalists in colleges / institutions across the country. The following analysis is based on the opinions of a non-representative, but purposeful, sample of six sites selected from the questionnaire.

The sites were selected because they indicated in the questionnaire that they had made some progress in tackling the resource issues arising from SSR funding. We recognise, therefore, that the analysis is biased towards those colleges/institutions that have made some progress in this area. This decision was deliberate and reflects the desire of the research team to use the research to progress the analysis beyond a description of the problems and into an understanding of how some colleges/institutions have attempted to resolve these problems. We felt strongly that the research presented an opportunity to disseminate the experiences of those who have made some attempt at resolving the issues arising from SSR funding. We hope that the analysis will alert colleges/institutions to the opportunities and pitfalls surrounding current approaches to funding which will enable them to take a robust approach to these issues.

Although the sampling strategy described above did attempt to select colleges/institutions which have made some progress in this area, we recognise that our criteria may have excluded some very innovative practices from the sample. Moreover, the choice of sites only reflects developments in the area of funding. We recognise that colleges/institutions not included in the sample, may have made substantial progress in other areas such as curriculum development or management structures, but these were not sampled as they were not the focus of this research.

5.2 Analysis of the interview data

From the analysis of the interview transcripts three methods were highlighted by which an institution / college can receive funding for nursing / midwifery courses, these are:-

1) FUNDING BASED ON THE SSR of 1:15 (Pre-Registration nursing) 1:10 (Pre-Registration midwifery).

2) PER-CAPITA FUNDING which is based on a fixed amount of money per student. Higher Education Funding Council (England) (HEFC(E), Pre-registration nursing and midwifery).

3) COURSE/STUDENT COSTINGS here there is no fixed amount of money per student and each institution/college has to work out the revenue required to conduct the course.

Although this study was only able to identify three distinct approaches to funding we do acknowledge that there will be multiple variations on the themes outlined here as well as other approaches which are currently in operation in other colleges of nursing and midwifery and higher education institutions. The following analysis relates to the findings from this data only.

Each method of funding identified in this study, generated a different approach to course costing in nursing and midwifery. Funding courses on the basis of an SSR entails identifying the number of students to be taught and from this deriving the number of nursing/midwifery teachers required based on the ratio of 1:15 Staff : Students for nursing and 1:10 for midwifery. For post-registration education it normally entails the appointment of a clinical specialist to run and teach the course.

The per capita approach to funding evolves primarily from HEFC(E) where there is a fixed per-capita income determined centrally by the HEFC(E) for subject bandings. There are three subject bandings 1, 2 & 3 (HEFC(E) Circular 1993) Subjects in banding 1 are primarily classroom/library based subjects such as English and History. These subjects receive the lowest per capita income for each student. Subjects in banding 2 are primarily laboratory based subjects such as engineering, physics or languages. These subjects receive a higher per capita income per student. There are only three subjects in banding 3, post-clinical medicine, post-clinical dentistry and post-clinical veterinary science. These subjects receive the highest per capita income per student. Nursing is located in banding 2 along with physiotherapy, occupational therapy, pre-clinical medicine, dentistry and veterinary science. Interestingly social work is located in banding 1.

In order to set up a new course in higher education it is necessary first to acquire the student numbers for the course from the HEFC(E). This is usually negotiated through the university. Once the numbers are obtained it is possible to identify the total income generated by the student numbers. The course is then designed to ensure that the income generated by the student numbers is greater than or equal to the costs incurred in running the course.

For post-registration education, colleges put in bids to RHAs to provide certain courses. Usually these bids are fully costed as there is no per capita income or SSR to act as a benchmark. In some cases colleges are given a block grant by RHAs to purchase a portfolio of post-registration courses. Again the College has to be able to cost provision in order to identify the number of students and range of courses that they can provide for the block sum of money.

5.2.1 Pre-registration courses based on SSR funding

The introduction of Working Paper 10 (1989) which transferred responsibility for distributing the funding of nurse education from the ENB to the RHA has focused attention on SSRs. In each of the interview sites, where the SSR is operational, participants commented that SSRs are used by the RHA as the basis for determining the amount of funding allocated for pre-registration courses:-

"........In all the negotiations (with the region) we have had to come back to SSRs"

(College of nursing and midwifery (site 1))

Interviewer

"........I mean, does anybody who provides funding (to the university) for pre-registration nurse education, use the 1:15 as a bench mark........"

(College of nursing and midwifery (site 1))

Participant

"........Yes Region....... the cost per student works out at a 1:12 and they required us to go back to a 1:15......."

(College of nursing and midwifery fully integrated within higher education (site 14))

"..........Region, who are our paymasters want to use a bench mark and they use the 1:15 for pre-registration, so it forms a funding base"

(College of nursing and midwifery (site 12))

".......funding was determined on a ratio of teachers to students...."

(College of nursing and midwifery (site 2))

The use of SSRs as a funding mechanism, therefore, appeared to be driven by the RHAs rather than the colleges or higher education institutions.

The RHAs strategy for funding pre-registration courses is based on the historical methods of fixed funding from their Education Advisory Group (EAG) which allocated a block grant; this determined the number and skill mix of staff based on the SSR of 1:15 for nursing and 1:10 for midwifery. The decision of the funding base was not based on any analytical framework:-

"......... To some extent SSRs are only a couple of years old in terms of their impact in a College. Prior to that, let us say two years ago, we really got a lump sum of money from the EAG and they agreed with you, in the depths of history, almost that, money would buy a certain structure; and to some extent the main problems we had at that time was having to live with that structure you couldn't change a grade 2 A & C staff for a grade 3 without typing letters, it was very rigid...."

(College of nursing and midwifery (site 1))

".........It is only in the last two years, last financial year and the financial year before that we were basically given the money, but based upon the original historical structure, and told that was your budget and now we are not too concerned with what you do with it...."

(College of nursing and midwifery (site 1))

However, despite the absence of any analytical base for determining funding the colleges believed that the SSR provided a baseline safety net of funding for pre-registration nursing and midwifery education, by ensuring a minimal level of income and staffing. Knowing that at least they will receive enough money to ensure that they have 1 teacher to 15 students provides the college with some security and means that at least they can plan ahead:-

Interviewer

"Do you find that the funding for pre-registration, based on the 1:15, is useful in the attainment of resources for the pre-registration nursing?"

(College of nursing and midwifery (Site 2))

Participant

"Well yes I do, to the point where there is a minimum below which the Region cannot force me.......So that is where it is useful. (I can then say) if you don't give me this (amount of money), I can't sustain the 1:15 ratio, I cannot meet the ENB requirements."

(College of nursing and midwifery (Site 1))

"......We don't want to throw out SSRs ..... they are a goal on which to start.......If you have got 100 students and you only have five staff (teaching), then that ought to ring alarm bells."

(College of nursing and midwifery (Site 12))

"........The thing I need to say is, I don't disagree with SSRs, so long as they have a background to them......"

(College of nursing and midwifery (Site 2))

Interviewer

" Would it be a problem if the SSR was abolished ?"

Participant

" No it wouldn't be a problem, but, it (the SSR) has been helpful with some of the problems with the Region, who use it,"

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

In order to adhere to the funding criteria set by the RHAs using SSRs it is necessary to undertake an actuarial process which involves identifying first the number of students to be educated and from this deriving the number of nurse/midwifery teachers required according to the ratio. When developing the course primary consideration is given to ensure that there is one staff to 15 students for nursing and one staff to 10 students for midwifery.

As a result of the RHAs basing its funding allocation on the ratio of 1:15 for nursing, they have not as yet, formally requested that colleges identify actual costs of running the programme. However in discussion with the colleges they can identify the component parts of the course they would need to cost:-

" We have been collecting a lot of data over the last 18 months, and the indications are that the 1:15 is not quite right, you could talk of higher numbers if you link submission documents and the actual curricula, with what is actually happening, but it is sketchy, based on opinion."

(College of nursing and midwifery (site 12))

"We think basically that the ratio (1:15 for pre-registration education) in the first place isn't realistic, it is based on an outdated model; it does not reflect running the Diploma type course, where you have many more activities away from teaching, (such as) the academic support, tutorials, marking etc. So you need more than 1:15.

(College of nursing and midwifery (site 1))

Where colleges and institutions have actually produced costed data for the RHA the costings were on occasion disregarded by Region in favour of funding, based on the SSR:-

"we then have to work out a cost per student for Region, for the contract this year and they would not fund the contract at what actually works out at a 1:12, and they required us to go back to a 1:15 ..... we did the cost per student and returned that to them and they said that's going to cost too much, you had £xxx last year, you are required to do whatever is necessary, to make sure that you deliver the business within the same envelope of money."

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

The evidence seems to suggest that it is the availability of resources, rather than the actual costs of running the course, that determines what a college/institution gets in the way of funding. The ratio is only accepted if it falls within the historical allocation of resources.

In one case a college managed to negotiate an improved SSR of 1:13 but only because the fall in student numbers created a surplus in the educational budget at Region:-

Interviewer

" I was just going to ask how did you manage to do that ?" (reduce the SSR to 1:13)

Participant

"I think by making the obvious comparison that you either get the midwives on a 1:15, or you get the nursing onto a 1:10, because we actually believe that the 1:10 is a more realistic ratio. We then argued that 1:15, was based on a traditional apprentice type (mode of learning), which became partly certificate level, towards the end of its life, now, we are developing two thirds of a degree, we need more resources. That was the kind of multi-discussion we had, rather than us saying, here is our evidence to suggest we can't cope. .... I suppose the issue that might have helped to swing it, was that there was a fall in student numbers, which meant that the RHA had some surplus cash and I describe that, as a window of opportunity. However, if the numbers of students had stayed the same, or increased, somebody would have said, I like your argument, but there is no money left.

(College of nursing and midwifery (site 1))

This reinforces the central importance of historical funding to nurse education in determining the future availability of resources and diminishes the potential of costing courses to attract additional resources.

5.2.2 The Use of SSRs in midwifery education

The distinction between SSRs for midwifery and nursing creates tension in the college in terms of equity of workload:-

"....Both sets of staff (midwifery and nursing teachers) have to follow a student in the clinical environment...............we don't believe nurse teachers, are any different from midwifery teachers that does cause some tension...."

(College of nursing and midwifery (site 1))

".........In the midwifery department the staff have more time to do more creative work and to perhaps speak at conferences more, to undertake research, or the beginnings of research while in the other departments, they are under much more pressure and I am sure it is because of the ratios........"

(College of nursing and midwifery (site 2))

This is exemplified in the case, outlined above, where a college had re-negotiated a standard SSR of 1:13 across midwifery and nursing. This enabled greater flexibility and equity in the use of resources as both midwives and nursing staff can be deployed across programme areas.

5.2.3 Skill mix, SSR and Staff deployment

Using the SSR as a funding mechanism gave rise to two main problems for colleges/institutions, namely; skill mix and staff deployment.

A) SKILL MIX

In most cases the "staff" in the SSR was a nursing or midwifery teacher. Technicians, secretarial staff, librarians and support staff were excluded from the ratio, although in some cases they were linked to the ratio i.e. 1 support staff for every 5 teachers. This situation limited the extent to which some colleges felt able to substitute support staff for teaching staff, even where teaching staff were complaining of high administrative workloads:-

Interviewer

"How about technicians, secretarial staff and librarians, do they get counted in when calculating the SSR or are they external to it."

Participant

"They are external to the ratio. It is what is deemed to be reasonable support for a number of courses."

(College of nursing and midwifery (site 12))

"We have one teacher post that we have replaced with a member of support staff. However more significantly that was not a nursing or midwifery course, where we have given SSRs, that was in vocational studies, where we can actually have the freedom to do something ourselves."

(College of nursing and midwifery (site 12))

B) STAFF DEPLOYMENT

An important factor in the relationship between the SSR and the deployment of staff was the level at which the SSR was calculated.

In colleges whose pre-registration education was funded using an SSR and who calculated the SSR at course level the degree of staff cross-over between pre- and post-registration education was limited:-

"Pre-registration and continuing education are by and large independent, but there is some cross-over"

(College of nursing and midwifery (site 12))

Other colleges whose pre-registration education was funded using an SSR but which calculated this across the institution were developing management systems designed to deploy staff across the whole college:-

"The whole thing is that we are trying to get our courses organised across a matrix, because we just couldn't afford to teach across courses. But it is proving quite difficult, because on paper we have more than enough teachers to cover our programmes, i.e. if you think about putting a teacher in front of a group of students when they are meant to be in school and they are meant to be in a clinical area ..... But when we start and look at specific skills, to teach a specific slot on the timetable, then we sometimes have problems (finding teachers with the appropriate skills)."

(College of nursing and midwifery (site 1))

This highlights that an SSR which is adequate on paper may not provide an appropriate mix and balance of staff to run the course. For those colleges which had moved towards unitised courses the SSR created particular difficulties:-

"The difficulty we have in working out SSRs is that, in many ways, we don't work like that .... We actually work specialist teaching across the board, so that I couldn't at this moment say OK, Joe Bloggs is pre-registration and only teaches traditional students and Dip HE students, because Joe Bloggs is a mental health specialist, with a psychology degree and therefore teaches mental health nursing, to who ever needs it, plus psychology on some of the other programmes, and in addition, may also teach other students in the university, who may not be nurses and midwives."

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

This highlights the difficulties of using SSRs at the level of the course if staff are teaching across courses and departments and even outside of nursing and midwifery altogether. In order to cope with this situation all the colleges had undertaken some form of skill mix analysis, usually this was driven by curriculum and timetabling demands, rather than any form of activity analysis:-

"what we do now, is we get all of the course demand together at a central point and we then deploy staff onto the teaching requests. This approach has highlighted for us, much more than the SSR figure itself, it has highlighted which staff might be over used, and which might be under used."

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

A central issue for nursing, therefore, is the mix of professional and academic skills. This created particular problems if the focus of activity shifted from one specialist course, for instance adult, into other specialist areas of activity such as paediatrics or mental health, here colleges could find themselves with an adequate SSR on paper but lacking the specialist skills required to meet the changing demands. Redeployment of staff in these specialist areas is rarely possible. The SSR was also found to limit innovation in programme planning and delivery providing a model of funding which seemed to stifle the possibility of producing a flexible response to changes in the demands being made on nurse education:-

" The SSR interferes with us using substitute lecturers and teachers. It interferes with our ability to use other methods of teaching, which may be more or less teacher intensive, because we only have the one bench mark of 1:15 for everything, and as long as we have to retain that, it makes it very difficult for us to move out of the traditional teacher in front of the class mode, because moving away from that (mode of teaching) and it does not matter how we move away from it, almost certainly alters the balance of time spent between teachers and their students.

(College of nursing and midwifery (site 12))

The SSR was also found to inhibit economies of scale, particularly in relation to specialist programmes like midwifery, mental health and child branch programmes. Here strict adherence to the professional SSR may render a specialist programme unviable. This seems to be particularly the case in institutions that are predominantly non-SSR funded. These institutions would expect to be able to deploy staff across programme areas and would be reluctant to commit staff exclusively to one programme area:-

"If we were going for a midwifery pre-registration, four year degree and the ENB insists on 1:10, we would not run the course, we would say we can produce competent midwives with a staff :student ratio of midwives 1:18, coupled with the Health Sciences, Life Sciences the Social Studies, which gives an SSR of perhaps 1:12.. If they (ENB) say that we must employ 2 midwives for an intake of 20 midwives, then we would not run it. If Region funded it, then it would run, but we would charge £8,000 or £9,000 per student midwife, compared with HEFC funded nurses at £4,500."

(Higher education institution (site 10))

This would suggest that the use of the SSR as a basis for course provision can make nursing courses, and in particular specialist branches too costly when compared to other traditional educational programmes in HE.

c) STUDENT NUMBERS

Finally, it is apparent that a change in student numbers can have a dramatic effect on the staffing establishment in the College:-

"......The contract of the (amount of students we have) varies every year, that is the problem. So this year we have got 10 Mental Health students and next year there might be 40, with this situation how do you make sure there is a 1 Mental Health teacher for 15 students, and how do you take into account the management component, which is taken out of the gross SSR calculation for practical reasons"

(College of nursing and midwifery (site 2))

"The size of contract i.e. the student numbers, will determine staffing requirements. There may well be the opportunity to re-deploy staff to other departments within the university, if there is a fall in student numbers."

(College of nursing and midwifery fully integrated within a higher education institution.(site 14))

The data from the interviews indicates that SSRs are used primarily by RHAs as a basis for determining the distribution of Working Paper 10 money. They provide a bench mark for colleges/institutions in negotiations with RHAs about the overall level of funding. They do however, create a fixed resource which can stifle flexible responses by colleges, particularly in relation to skill mix, staff deployment and responding to changes in student numbers.

5.2.4 The use of per capita funding in pre-registration education

This model is primarily derived from HEFC(E) funding based on student numbers which are allocated to the institutions by the HEFC(E). Under this system there is a fixed nationally agreed per capita income for each student determined according to the programme area in which the course is located. Institutions are allocated a number of students, from this they can determine the overall income for the course. A course is then designed that can be run within the income generated by the per capita funding:-

Interviewer

"How do you calculate the costs of a course?"

Participant

"Well we work out the academic staff requirements. The academic staff work out what they believe they need in terms contact hours in order to teach the course. They then come and negotiate with me and say we need 3,500 hours of class contact to teach, or some sort of figure around there. If you are taking 3,500 hours, you divide that by 450 or 400 (that is the equivalent of X number of full time staff) and an average salary of £30,000, so that is your staffing costs. There are all the overheads for the university to pay for, such as the buildings, that works out roughly to 40%, you then add that on. Finally, you look at the income that comes in for your 100 students, basing it on fees and the HEFC (E) income and if those two things (income and expenditure) are about the same, preferably the income is slightly higher than the expenditure, we (Heads of Department) say yes to the lecturers, you can have those hours, if it is way out we say, well look, we can't afford to run the course because we are subsidising it, and that is nothing to do with SSRs"

(Higher education institution (site 10))

Within higher education which uses the per capita approach to funding the question is asked:-

"is the income greater than or equal to the expenditure? if yes, then the course is run, if not, then the course will not run".

(Higher education institution (site 10))

The onus is therefore on the college/institution to adequately cost the course. Under Working Paper 10 (1989) there is no agreed amount of funding per student, colleges/higher education institutions, therefore have to work out what it would cost to produce a registered nurse and put a bid into Region:-

".... when we are in the process of designing a new course, we will say, what is the market, are the student numbers guaranteed, is it going to be Working Paper 10 funded, or HEFC(E) funded. If HEFC (E) funded, we would say no (i.e. not run the course) because we haven't got the numbers, we are capped, but under Working Paper 10 ....Health Authority wants to increase the numbers of students and therefore going to fund the additional pre-registration students. You would say OK, but we (Head of Department) would then say to the lecturers, what do you reckon are the resources required to produce the graduate nurse, on the basis of your experience, and they would come up with a series of resource implications, we (as Head of Department) then put in the bid to Region.

(Higher education institution (site 10))

Unlike HEFC(E) funding, if courses are funded from Working Paper 10 (1989) there is no nationally agreed per capita cost for each student. The onus therefore rests with the colleges/institutions to identify the total costs of the course within a competitive market:-

"This is the point at which you phone up people and chat around, sort of saying we get £6,000 (per student) or a P2K semester costs £7,000. Therefore, Region are going to bite our hand off if we are going to offer them a graduate nurse for £5,000 or £6,000 a year, when they are paying £7,000 a year for a P2000, that is the politics of actually deciding on the quality"

(Higher education institution (site 10))

This raises an important issue in relation to the merger of nurse education with higher education as there are clear cultural differences in terms of the criteria considered important in costing a course. For instance in higher education where funding is not related to the SSR there is an assumption that nursing students are more expensive than other students e.g. Health Studies students, therefore on purely economic grounds an argument can be made for diverting student numbers into less costly programmes:-

"If you just look at this in terms of a business, graduate nurses are no different in terms of the fee income, than a Health Studies student and we can pump those (Health Studies student) out much cheaper than graduate nurses. That is why the economics of it, is that in order to be a Health and Social Care faculty we have nurses, if we were on performance related pay and wanted to get money out of it, there is a good chance that we would cut out some of the courses, even though they just break even, but they are not worth the hassle. I am not saying that it is true of the nursing, but some of the courses, you would say, well look, we will increase the production of the Health Studies courses because we can do that course without any costs; we don't have to do visits to the clinical areas, we don't have these expensive tutorials and auditing wards."

(Higher education institution (site 10))

Interestingly even in higher education where all courses are costed the costings are derived from higher education proforma and therefore did not include the costs involved to maintain clinical links or undertake clinical audits:-

".......Saying things like, you are not responsible for them (students) all the time, because they are in service, and therefore in service, you have no responsibility for them, so you don't need teachers to cover any of the work they are doing in the clinical areas. So when we were moving into the higher education culture, we had to explain that although the students are in service, they are still learning, they are still students, and the faculty does have a responsibility for what they are doing..."

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

There was some evidence to suggest that when clinical time was incorporated into a costing formula and compared with a formula developed by a university for a college based on course credits they found that when using the university designed formula some courses were more expensive and some were less expensive:-

"The difference was in the amount of clinical time required in the course, because clinical teaching is required for some courses that are say 30 credits, and not for other courses that are 30 credits, so, what this (university designed formula) doesn't take into account is the variable for the clinical teaching, so it wouldn't provide me with enough funding for a course which requires clinical teaching, but it would give me more funding for courses that don't require clinical teaching, interestingly."

(College of nursing and midwifery *(2))*

5.3 COSTING POST-REGISTRATION NURSE EDUCATION COURSES

The analysis of the data on post-registration courses highlighted two main methods of obtaining funding. The first method was based on course costings:-

".....for post-registration courses we bid for those and still do, on an individual and then aggregate basis you know you cost the course and bid for that amount of money, the RHA, do not ask for Ratios....."

(College of nursing and midwifery (2))

Alternatively, colleges/institutions can receive a lump sum to provide a portfolio of courses to Trusts. Sometimes the lump sum is top-sliced from Trusts. The college/institution then needs to identify the level of supply they can provide for the income. There is a problem if Trusts demand more than the College/institution are able to supply within the Contract. This becomes the focus for negotiation, in terms of who pays for the additional demand (i.e. should it be the additional students that incur the costs themselves, or should the college negotiate additional funding from the Trusts):-

..... In this college the money came from them (Trusts), so it is theirs in the first instance, because they put money into the development, the region top slice (the money) under the working paper 10 and high tech reasons, but technically it is the Trusts money and danger will come if, the region will ever say we are going to stop this top-slicing and the money goes back to the Trusts and then the trusts start to negotiate with us as to how many students come in, with those students will come the money, or not ? as the case may be..."

(College of nursing and midwifery (Site 1))

In both cases SSRs were not considered in the contract. Historically the SSR on the post-registration courses has been very good, it was not unusual to have a post-registration course with an SSR of 1:5:-

"......there was no SSR at all, you ended up having a teacher for each numbered course that you ran, so if there were around four to five on the Intensive Care course, you ended up having a teacher in that particular speciality, so really it wasn't as much SSRs as one teacher one programme."

(College of nursing and midwifery (site 1))

5.4 Maintaining Clinical Links

Although it was generally acknowledged that clinical links, between nursing and midwifery teachers and the specialist clinical areas, were important there were two main reasons highlighted as to why this aspect was difficult, if not impossible to maintain. Firstly, the main problem expressed by the participants was obtaining enough funding from the RHA to enable a nurse teacher to spend time in the clinical area:-

Interviewer

"How are you addressing the 0.8"

Participant

"We are not really, simply because we have discussed it endlessly with the Region and they won't fund it"

(College of nursing and midwifery (Site 2))

Interviewer

"You just can't afford to run a course and allow a teacher to go into the clinical area one day a week."

Participant

"Yes, we have tried to address it."

(College of nursing and midwifery (Site 12))

Interviewer

"If the Region are not going to fund you for the WTE of 0.8 then it won't happen"

(College of nursing and midwifery (Site 12))

"...............we then have to work out a cost per student for the Region for the contract this year and they would not fund the contract at what actually works out at a 1:12, they required us to go back to a 1:15, so what we had to do in order to be able to survive on the funding, was to cut back on the amount of clinical work that the staff can do so that we covered the academic side.

(College of nursing and midwifery fully integrated into a higher education institution (Site 14))

Secondly, the integration of colleges into higher education brought about the difficulty of maintaining the clinical link within the organisation of university contracts:-

"The move into higher education the staff went onto the university contract which is 38 weeks of contracted face to face teaching, seven weeks of research and scholarly activity time and seven weeks annual leave...........couldn't keep the day a week 45 weeks a year for the staff in the clinical areas so that we had to reduce it to 38 weeks with skeleton cover for the additional weeks for the wards that staff had to be withdrawn from."

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

Interviewer

"I was just thinking that if you went to the university and said I am sorry but all of these lecturers count as 0.8, that would actually cause some problems, would it."

Participant

"Yes, it would cause problems and we wouldn't get anywhere.....(the attitude would be that) well, that is no different from anybody else, they all everybody have to keep up with their subject, end of story, so I don't think it would wash in the university quite frankly.

(Higher education institution (Site 7))

5.5 THE LINKS BETWEEN QUALITY, SSRS AND COURSE COSTINGS

The three approaches to funding nursing and midwifery pre- and post-registration education, described above gave rise to different approaches to quality assurance within the colleges/higher education. institutions. For courses whose funding was based on per capita funding (HEFC(E)) or on whole course costings (Post-Registration courses), quality was a central and negotiated issue when designing the course. For courses whose funding was based on the SSR the primary concern was maintaining an SSR and this made it difficult for colleges to alter the organisation of the course. Therefore the relationship between quality and funding was much less explicit.

5.5.1 Per capita funding/costed courses and quality

It would appear that where course costings are used there is a constant negotiated tension between the quality of the course provided and the costs of course:-

"You are trying to match economic realities, with the quality aspirations, but the start is the quality aspirations and then that goes through the initial costing and then you put the two things together and then you say well, how can you make these things match and then it is a constant tension between the economics and the quality, it is no different on nursing courses".

(Higher education institution (site 10))

This suggests that the process involved in costing a course is integral with the process of design and quality and all of these elements are identified before a course can proceed to validation. It also means that once a course is implemented the institution can be fairly certain that the resources purchased by the income generated by the course match the design and quality aspirations of the course:-

"the costing part of it, what happens is you design the conception of the course and what would need to happen, you get a sense of the sorts of resources that would need to be put into the courses.... to sustain that level of quality or the type of output you want to achieve."

(Higher education institution (site 10))

For those courses based exclusively in higher education it was apparent that the University had a central role to play in determining the quality/resource tension in course provision:-

"The way in which the University as a whole approaches validation is that we have what they call basic data sheets which have a series of criteria that have to be met before something is allowed to proceed to validation, part of that is resources, so you have to satisfy each of the Heads of Department that control, that is service the course, that you have the resources to (cover the costs) of teaching the course. You may get a visit from the Head of Languages or Computing or Head of Student Services and we would talk about how are you going to do this? have you got the resources for the students? have you got the services for the students? are you able to do things like catering? .... we then have a series of committees .... and we have to convince the powers that be within the organisation that we have the staff to teach it ... so when we get to a validation it is purely, usually purely, on the basis of the academic quality."

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

This highlights that higher education institutions are concerned that any courses that proceed to validation are economically viable within the organisation. It is then up to the validation committee to be convinced that the quality meets the required standards. Most colleges had experience of this type of validation procedure and felt that it provided a much more thorough process than reliance on an SSR as a basis for determining resources and quality.

5.5.2 SSR based funding and quality

The relationship between quality and SSR funding was much more tenuous than in those programmes that used course costings. In each of the six study sites visited the participants indicated an indirect relationship between SSR and the quality of course:-

"(Using SSR funding) the course has to be contained within the resources available... so long as you can demonstrate that you have the right number of teachers, it is a very simple measurement, no quality in it at all."

(College of nursing and midwifery (site 12))

"The SSR would give you a rough feeling for quantity ... no feeling for quality ... I am not even sure it would give you a total figure on quantity....."

(College of nursing and midwifery (site 1))

Interviewer

"So the Regions fund the pre-registration courses based on the 1:15, do you have to justify the 1:15 to the Regions? or can you just say you are working on a staff : student ratio of 1:15?"

Participant

"Well they know the student numbers because of the contracting process and we are required to make contractual returns to them on the contract formula, they know very clearly what the numbers are, so I think they know."

(College of nursing and midwifery (2))

"SSRs don't indicate quality"

(Higher education institution (7))

"if I look at what we do, make sure student experiences don't suffer, getting appropriate experience to meet statutory requirements and being appropriately supervised in practice, doing all the things statute requires and a good educational programme requires them to do, who is to say I couldn't do that on a 1:25."

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

In order to provide the participants with the opportunity to link their knowledge of their own situation to the wider issue of defining an adequate resource base to maintain quality provision we asked each of the participants to identify the criteria they thought should be used to validate a course. The responses to this question indicated an emphasis on qualitative indicators rather than the quantitative SSR:-

"there are quality assurance mechanisms which are a lot to do with documentation - student handbooks, it is the areas of expertise of staff which is more important than numbers, expertise are identified by course content, the course is planned around this."

(Higher education institution(7))

"The SSR is a simple division, but they (RHA) don't know how much other work we are doing which isn't indexed, and they don't necessarily know how many other teachers are teaching into the programmes .... I think they need to look at things like the labs, media resource centres, libraries the range of other things that there are to support students ..... and then through the documentation they can see how the quality management process works and what we do with reports, because very quickly if something is wrong for the students they tell us, they tell external examiners".

(College of nursing and midwifery fully integrated within a higher education institution (Site 14))

"Well, I would want to make sure that there was an adequate teaching resource. I would want to know about the requirements of the course and how many teachers are committed to that activity. I would want to know in terms of their teaching hours because it would be no good saying you have got ten teachers and we need 3,000 hours of teaching if the contact hours are only 100 a year, it wouldn't be enough .... That the teachers are adequately qualified and have the knowledge of the subject.... I would also look at the evaluations of previous courses, the quality of previous courses".

(College of nursing and midwifery (2))

The emphasis on the process of course provision, qualifications of the staff, ownership of the course by the staff and learning resources within the college/institution were echoed by all of the participants as an appropriate basis for validation. The issue of the quality of the course provided was recognised as a legitimate concern of the ENB, but not one that could be adequately addressed through the mechanism of the SSR. Instead colleges and institutions highlighted the need to identify the process through which resources were obtained and matched to the curriculum demands of the course.

The data seem to suggest that when courses are funded on the basis of an SSR the participants recognised that resources and quality are linked, but they were unable to clearly articulate the process by which this occurred. Instead, this was expressed in terms of the impact of the SSR on the organisation of the course.

Alternatively, in per capita and in costed courses, the relationship between resources and course design dominated discussion of course costing. Here, costed/per capita courses were planned to identify the level of quality that could be achieved within the resources available, a decision was then taken as to the viability of the courses from an educational and professional perspective.

In all of the approaches to funding identified in this research there was a need to disassregate the costs of running the course. This is apparent for post-registration courses which are primarily based on course costings and tendering or on identifying the appropriate level of course provision for a given lump sum of money. It is also apparent in per capita funding where the central concern is to ensure that the income generated is greater than or equal to expenditure.

However, even those colleges which received funding based on the SSR had identified the need to be able to specify appropriate levels of workload and this had given rise to the need to set parameters which reflected the level of support that should be allocated to the course by the college:-

"It (SSR) needs to be used with workload indicators and that's one of our problems, trying to bring workload indicators in that we can reconcile with that (the SSR), that doesn't really happen......"

(College of nursing and midwifery (Site 12))

There was however considerable variability expressed by the participants in terms of the amount and type of contact expected from teachers. Staff contact time was specified to 500 hours, 450 hours per year and 2.5 days per week. In all cases the choice of contact time was arbitrary. Moreover, there was no agreement as to whether the class contact should include clinical contact:-

"The teachers do 500 contact hours per year that is clinical and classroom contact."

(College of nursing and midwifery (Site 2))

"we work on the notion teachers ought to have student contact on 2.5 days per week, one day a week in the clinical environment doing whatever they require, one day for administration and half a day for scholarly activity."

(College of nursing and midwifery (Site 1))

"Contact hours 450, has come as a figure that we have used as we have used SSRs' less and less as the touch down. i.e. as we have disengaged from the use of SSRs as a currency at all. The total staff contact hours the use of those is because that is the currency that people actually understand it comes from Silverbook."

(Higher education institution (Site 2))

In order to address the question of whether or not the SSR does provide adequate staffing resources colleges whose funding was based on SSRs had developed notional parameters on teacher workload and course costings. However, the use and arbitrary nature of workload indicators gave rise to internal tensions within the college in relation to the distribution of workload:-

"I am talking about gross figures like mental health for example, they might be better off than others although we do try and adjust the skill mix and the numbers required for that group of students, but we are really not sophisticated enough to be able to do that in a lot of detail and of course the contract varies every year."

(College of nursing and midwifery (Site 2))

This highlights the problems of maintaining equity in the distribution of workload across the college, while simultaneously sustaining an SSR of 1:15 at the level of the course. The notional parameters developed to reflect workload were an attempt to capture the complexity of the nurse teacher's role:-

"We require the brains of our teachers to help with programme planning, with marking and Academic Board, with course management with just the general life of the College and that takes up time, and finally we are expecting our teachers, as we move towards HE. to have some breathing space for what we call scholarly activity, even if that is just an update bit of reading. Until we get some kind of agreement as to what proportion of time an SSR is, what a teacher does with a midwifery student, now that can fluctuate from five days a week to five minutes....there are some given parameters ... we work on the notion teachers ought to have student contact on 2.5 days per week, one day a week in the clinical environment doing whatever they require, one day for administration and half a day for scholarly activity. Now to get something like that agreed within parameters up and down the country, even given that there are individual differences between colleges, might start to make a bit more sense."

(College of nursing and midwifery (site 1))

".......We need some kind of standardisation to describe how long, how much of that teacher time do we expect them to be interacting with students, be it in a lecture, be it in a seminar, be it in a one to one....."

(College of nursing and midwifery (Site 1))

This sentiment was expressed by a number of participants and indicates that if the SSR is to continue to be used as a basis for funding it might be necessary to clarify a notional expected workload for teachers so that it is possible to make sound comparisons. There was general agreement that this should include:-

Contact time (clinical and classroom)
Administration time
Clinical link time
Scholarly Activity

"The thing is if there was, from the ENB's point of view, a list, sort of a set of criteria that could be included in it (the SSR) then as an establishment providing education we could say, well yes, these are the elements we do, if we give some form of measurement to that, some weighting to each element."

(College of nursing and midwifery (Site 12))

Moreover colleges also identified other factors that would need to be taken into account in order to accurately reflect the costings of a course:-

"So you can't just latch onto one thing and say this is a fixed item, there are also others, more marginal factors like geography. We are lucky most of our teaching takes place on a single site .... but other colleges may be dealing with twelve or more sites and use up substantial travelling time - which needs to be taken into account".

(College of nursing and midwifery (site 12))

The concern with standardisation of the formula used to measure SSRs has to be set against the issues that arise using standardised approaches:-

.... I would think for traditional taught courses that contact time is an important measure, but of course that would be different if people were using open learning methods, for example and some of the other more flexible learning methods"

(College of nursing and midwifery (site 12))

This suggests that while some participants highlighted the need for a standardised approach to measuring the SSR, in order to make sound comparisons, there was also the problem that this would restrict the developments of alternative approaches to teaching. The issue of comparisons is one that is likely to become increasingly problematic for colleges and institutions:-

Participant

"as long as we deliver the contract ... to the number of students, to the quality specified, the way in which we do it, the number of teachers we use really is our business .... so we had some `in principle' discussions about, we had included this but we haven't included that, because what they (RHA) wanted to do was to be able to compare us with xxx or whoever"

Interviewer

"To see whether you were cheaper or more expensive?"

Participant

"Yes"

(College of nursing and midwifery fully integrated within a higher education institution (site 14))

The lack of definition in the SSR and the exclusion from the ratio of contextual elements such as number of sites, and travelling distances, suggests that comparing colleges and institutions in relation to the SSR did not reflect real costs. This becomes particularly acute as the contracting process progresses:-

all of our customers around here are Trusts, it is a slightly different relationship when they were still DNE's, Regions disappearing, we are going to have different contracting mechanisms, with the Trust forming consortia, now already they are looking at shifting round the contracts to other colleges, so you know the old relationships are gradually being broken down and new ones forming."

(College of nursing and midwifery fully integrated into a higher education institution (Site 14))

5.6 Summary of issues arising from interview data

5.6.1 The use of the SSR as a basis for funding pre-registration nursing and midwifery

1. The use of the SSR as a basis for funding is driven by the RHAs rather than the colleges.

2. Funding levels are determined by the SSR which acts as a baseline safety net, ensuring a minimal level of income and staffing.

3. Increases in funding, by reducing the SSR to 1:13 or 1:12 can only be achieved within the envelope of money already allocated to nursing and midwifery education under Working Paper 10.

4. The "staff" in the SSR is usually a nursing or midwifery teacher, using SSRs as a funding base limits substitution of teaching staff for non-teaching staff (e.g. secretarial or technical staff). and non-professional teaching staff (e.g. psychologists and sociologists).

5. The level (i.e. course, department, institution) within the college/institution at which the SSR is calculated, was found to affect staff deployment, opportunity for managerial initiative and scope for innovative developments:

◷ Calculating the SSR at the level of the course linked teaching staff to specific courses. This clearly identified staff workload but created an inflexible structure which constrained cross course teaching.

⏱ Calculating the SSR at the level of the whole organisation enabled much greater flexibility in staff deployment, but introduced the need to agree a nominal staff workload to ensure equity in the distribution of work.

6. The SSR inhibited economies of scale and could render certain specialist programme areas not viable if they required the recruitment of a specialist nurse or midwife who was unable to contribute across programme areas. This was particularly the case in higher education where cross course teaching is expected.

5.6.2 Per capita funding for pre-registration education

1. The costings for the course are derived from the course design. This is modified to ensure economic viability, market viability and maximising the use of existing staffing resources. Therefore it is possible to identify when a course is under or over resourced.

2. If courses are HEFC(E) funded there is the possibility that the student numbers will be switched to courses that are perceived to be less resource intensive but generate the same level of income per student.

3. If the courses are funded from Working Paper 10 (1989) there is no fixed per capita cost, higher education institutions have to calculate what it would cost to run the course and put a bid into the RHA.

4. The parameters taken into consideration when calculating the cost of running a course in higher education, reflect the traditions of higher education. These exclude things like the cost of maintaining clinical links or undertaking clinical audit and supervision.

5.6.3 Course costings for post-registration education

Post-registration nurse education is moving into a demand led market much more rapidly than pre-registration. This has led to the need to cost courses either in order to bid for student numbers or to identify the level of supply the college can provide for a given sum of money. This has given rise to identify the resources required to run the course and to identify whether the course is economically viable.

5.6.4 Maintaining the clinical links between nursing and midwifery teachers and specialist clinical areas

The existing arrangement of funding based on the 1:15 frequently provided insufficient money to maintain clinical links between nursing and midwifery teachers and specialist clinical areas. Calculating a teacher as 0.8 FTE in order to facilitate clinical links resulted in a ratio of 1:12 this meant that colleges were often in a position of either not being able to provide clinical teaching, or being selective as to which wards could have a link teacher. In addition the clinical link recommendations were particularly problematic when a college of nursing and midwifery integrated within a higher education institution, due to the differences in contracting arrangements between colleges of nursing and midwifery and higher education institutions. Again it seemed that the only solution was to remove link teachers from some wards. In nursing departments already established within universities they found that they had to try to convince others within the organisations of the importance of maintaining the clinical links

5.6.5 The links between quality, SSRs and course costings

The link between the SSR and the quality of the course provided was tenuous. It was necessary to undertake additional managerial processes such as, the development of notional parameters on teachers workload and course costings, in order to examine the quality of the course provision. The development of workload indicators and course costings were not co-ordinated. The use of per capita funding and course costings forced a discussion about the level of quality that could be achieved, with the income generated. This occured during the planning stage of the course.

SECTION SIX

6. CONCLUSIONS

The debate about the function and purpose of SSR targets in nursing and midwifery education has been generated by four main issues. Firstly, the change in the structure and organisation of nurse education as a consequence of the implementation of the P2000. Secondly as a result of the Peat, Marwick and McLintock report (1989) which revealed the arbitrary nature of the SSR targets and the tendency for them to be used as a measure of how well educational institutions are resourced. Thirdly Buttigieg (1990), found considerable variations in SSRs across regions and disciplines. Finally, the changes in the funding arrangements for pre-registration nurse education initiated by the Working Paper 10 (Department of Health 1989) which transferred funding for nurse education from the ENB to the RHAs.

6.1 Literature Review

There is not an extensive literature on SSRs, but what literature there is highlights three main issues in relation to the calculation of SSRs. The first issue relates to the components used in the formula to calculate SSRs. Ellis (1986) highlights how the inclusion or exclusion of different components in the formula used to calculate the SSR can affect the actual ratio finally produced. For instance total number of staff can be calculated as a head count where part-time and full-time staff, staff on maternity leave and staff on secondment or study leave are treated as equivalent. Alternatively a WTE calculation can be made, but again a variety of different methods can be used to calculate the WTE. Variations in both the definition of the components and the range of components used to calculate the SSR can affect the actual ratio produced.

The second issue highlighted in the literature derives from the first issue, where in the absence of a standardised approach to calculate SSRs it is possible to include or exclude certain staff from the formula in order to arrive at the desired outcome (Birch and Latchman 1979).

The third issue relates to the level within the organisation at which SSRs are calculated. It is possible to calculate SSRs at course level, departmental level and institutional level. Ellis (1986) demonstrated how the focus of the calculation can also affect the resulting ratio.

The results of this research indicate that all of these issues are found to be problematic in the calculation of SSRs for nursing and midwifery education. Moreover the literature review, while highlighting the central problems associated with the calculation of SSRs, did not provide any evidence that these problems had been solved for any academic or professional discipline. It follows that any SSR given by an educational institution, for any academic or professional discipline, must be viewed with caution and understood within the context of the three issues summarised above.

6.2 Questionnaire

As highlighted in the literature review the results of this study revealed that a variety of different methods are used by nurse educationalists to calculate the SSRs for the pre-and post-registration nursing and midwifery courses. The data indicates that the most frequently used components were the 'total number of students' and the 'total number of staff'; and that these were most commonly utilised in a formula which entailed dividing the 'total number of students by the total number of staff'. The other components used in the formulae were variations of the components of staff and student such as:- WTE staff / students, average number of students, projected average number of students, student load, contact hours, clinical contact, leave and course credits. The data also highlighted that the majority of pre-registration courses utilised some sort of formula to calculate SSRs. For pre-registration it was clear that there was a wide range of different methods used to calculate the SSR. Some colleges of nursing and midwifery appeared to have developed quite a complex formula, while a small minority tended to specify an SSR of 1:15 but were unable to say how they arrived at this. The wide range of different formulae found to calculate the SSR highlights a lack of standardisation and implies that the actual ratios produced could vary considerably, if the same method of calculation had been used. Interestingly the majority of respondents indicated that their actual SSR for pre-registration nursing courses was 1:15 and for pre-registration midwifery 1:10. This finding tends to confirm the work of Birch and Latchman (1979) and Ellis (1986) that in the absence of a standardised approach to calculating the SSR colleges of nursing and midwifery/higher education institutions are able to manipulate the components of the formula to arrive at the outcome required by the ENB, regardless of their actual staffing establishment.

More positively the above finding also indicated that colleges of nursing and midwifery/higher education institutions are at different stages in the development of an SSR formula, some using fairly simple methods of calculation, while others had developed more complex formulae which captured different aspects of the relationship between staff and students. This finding was used to develop a purposeful sampling strategy for the interview phase of the research as it enabled the research team to focus on those colleges of nursing and midwifery/higher education institutions which had actively worked to develop more complex formulae. The rationale for this sampling strategy lay not in understanding the formula, but in collecting data about the issues inherent in the development of complex formulae to measure SSRs which staff in these organisations would necessarily have had to work through in the process of developing a more complex formula.

The findings also revealed that the majority of post-registration courses did not use an SSR or have a formula for calculating SSRs. This is because, unlike pre-registration education, the ENB does not prescribe a statutory SSR for post-registration education. This finding is again interesting as it indicates that the driving force behind the use of SSRs in nursing and midwifery education comes from the statutory body rather than from the colleges of nursing and midwifery/higher education institutions. This indicates that if SSRs are not required by regulation, they are not used by colleges of nursing and midwifery/higher education institutions as a method of determining the staffing requirements for a given course.

6.3 Interviews

The interview data highlighted and explored the various ways in which nursing and midwifery education could be funded. It became clear during the interviews that the systems of funding which were in operation had profound impacts on the way in which education was planned and resourced, and moreover that different types of funding operated simultaneously within colleges of nursing and midwifery/higher education institutions. In other words, in any one college of nursing and midwifery/higher education institution there was a mix of different funding mechanisms operating, and although there may be a preponderance of one method over others, the mix of mechanisms made the educational manager's role extremely difficult. From this data, however, it is possible to develop a typology of different methods of funding nursing and midwifery education, and this is presented in this section. Methods are classified according to their basic mechanisms, and the discussion also includes the advantages and disadvantages of each type of funding for the organisation and management of courses, as well as for the resource base, as evident from the interview data.

6.3.1 Historical Block Grants

Using this method of funding the College received a total annual income that was based on the previous year's income adjusted to take account of inflation and new developments. The level and distribution of funding is historically based in that the current level of funding is an incremental development of historical decisions. While it is possible that this method of funding is being used to fund some colleges of nursing and midwifery, it was not being used in the six sites selected for interview. Where it was discussed it was as a background to the current situation, some colleges indicating that it was the method of funding that had prevailed up to two years prior to the interview.

The block grant system of funding described by the respondents seemed to be accompanied by tight central control on the utilisation of resources. Any changes in the way in which the funding was used i.e. the regrading of a member of staff, had to be negotiated with the central funding body. Quality control using this method of funding was clearly achieved by tight bureaucratic controls over the way in which the funding was used at a local level.

6.3.2 Formula Funding

Two different methods of formula funding were highlighted during the interviews. The first was the SSR method of funding. The second was per capita funding. Formulae are a prevalent method of funding public institutions and a variety of formulae have been developed for this purpose, see for instance RAWP (Department of Health and Social Security 1976), which was developed to bring about a regional re-distribution of resources in the NHS. A more recent example in relation to medical education is SIFTR (Clack et al 1992). This aimed to compensate both hospitals and medical schools for the additional costs incurred in running integrated educational and clinical links.

As the work of Birch and Latchman (1979) and Ellis (1986) indicates, the selection of components used in the formula, are critical to the calculation derived from the formula and to the subsequent level and distribution of resources. This highlights the importance of selecting components, which actively capture and measure the critical variables in relation to the policy being implemented. Indeed as the work of Birch and Latchman (1979) cogently illustrates, the selection of components reflects underlying philosophical and/or policy aspirations (e.g. equity in the geographic re-distribution of resources in the case of RAWP or to encourage integrated educational and clinical programmes in the case of SIFTR in medicine). This highlights the importance of clarifying and negotiating the philosophical/theoretical basis for nursing and midwifery education and identifying the policy aspirations for education, prior to the selection of components to be used in a formula.

One example of this can be found in the current debate about clinical links in nurse education, the process by which nurse teachers are required to spend part of their working week in the clinical environment, maintaining relationships with clinical colleagues and maintaining their own clinical competence. The philosophical principle underlying the development of clinical links is that nurse education should be delivered by those who are cognisant with the issues and practices evident in clinical practice, and it is therefore indicated that there should be some mechanism for ensuring that there is at least some time available for nurse educationalists to develop and maintain this understanding.

Implementing the policy of clinical link time, however, proved problematic for the interview participants. The interviews revealed that none of the sites in which interviews were conducted had been able to implement the ENB recommendation that a nurse teacher be calculated at 0.8 of a WTE in order to enable clinical links to be maintained, although at each site the importance of maintaining clinical links was stressed and in each case a variety of methods were used to maintain them. But in some cases the funding of clinical links was not considered appropriate by the RHA or indeed by the university.

This finding is contrary to both medicine and to the recommendations of the Strategy for Nursing Research published last year (Department of Health 1993) which recommends the application of SIFTR to the educational funding base of nursing and the professions allied to medicine. It is apparent that the development of formulae to calculate SSRs or to determine appropriate levels of per capita funding for nursing and midwifery education, will require a central policy decision to be made in relation to the resourcing of clinical links. The literature review suggests that the case for or against resourcing clinical links will have to be made on the basis of theoretical argument rather than empirical evidence, as is apparent in both the RAWP and SIFTR formulae. In both cases the formula reflects agreed policy objectives rather than any published empirical evidence. In each case the use of empirical evidence is confined to testing the adequacy of the components used in the formula in relation to the stated policy objective of the formula. In other words empirical evidence is confined to determining whether the formula brings about the policy. Empirical evidence is not used to identify what the policy should be.

The above discussion of formula funding is germane to both SSR funding and to per capita funding and would need to be considered when either type of formula is used to fund nursing and midwifery education. There were however, findings that were specific to SSR funding as distinct from per capita funding which are important to understand when using either method.

6.3.2.1 SSR Funding

SSR funding was used primarily by RHAs under Working Paper 10 to fund pre-registration nursing and midwifery education according to the respective ratios given by the ENB. SSR funding also provided the principle method of funding in colleges of nursing and midwifery and had a considerable impact on the organisational structure of education within these colleges. Higher education institutions are primarily funded using the per capita formula developed by the HEFC(E). Consequently nurse educationalists working in higher education had some difficulty in accommodating both systems of funding simultaneously.

The use of SSRs as a basis for funding was found to provide a baseline or safety net below which colleges could not go in their acquisition of resources. This was considered to be very important and most of the respondents were reluctant to loose this baseline. Most of the respondents also recognised the arbitrary basis of the recommended SSR in particular the discrepancy between the SSR for nursing and the SSR for midwifery. This gave rise to a desire for greater validity in the SSR, which would provide a less arbitrary and much sounder basis for negotiation over funding with RHAs. Allied to this was a concern about the lack of standardisation of the components used to calculate the SSR. Most nurse educationalists were aware that the formula they were using to calculate their SSR was not shared by colleagues in other colleges of nursing and midwifery and higher education institutions and this made comparisons unreliable. None of those interviewed felt that they had made a great deal of progress in developing an appropriate formula. They had, however, identified a number of important variables which they felt should go into a formula, but they were uncertain as to how to measure or weight these variables.

Some interview participants went further in their comments, and suggested ways in which the SSR should be developed. Some called for greater standardisation of the SSR, while others called for a more sensitive and flexible method of recognising differences between colleges of nursing and midwifery/higher education institutions. Some participants suggested that the SSR was a redundant mechanism for both funding and ensuring quality of courses - the link between the number of staff teaching on a course and the quality of provision was challenged, and there were some fears expressed that insisting on an SSR of 1:15 for nursing or 1:10 for midwifery made some courses economically uncompetitive.

These results support the findings of other studies which have indicated that a variety of different methods are being used to calculate SSRs in nurse education (Balogh and Beattie 1988, Peat Marwick and McLintock 1989). In addition the study has identified the different types of components included in the formulae used to generate the ratios. It has also added further support to the observation that there are areas of ambiguity concerning which types of staff and student numbers are included in the calculation (Balogh and Beattie 1988, Ellis 1986).

The use of SSRs as a basis for funding was also found to create a situation in which course costings were calculated in relation to the SSR rather than the demands of the curriculum. In other words the resources required to run the course were calculated using number of staff and number of students, irrespective of the type of curriculum planned. Interestingly, even when more rigorous costings were produced they were frequently disregarded by the RHA in favour of funding based on the recommended SSR. This highlights the importance of the SSR as a basis for funding under Working Paper 10. More importantly it illustrates the transition from historical funding to SSR formula funding in that changes in the budget for nurse education derived using the SSR formula would only be implemented if the total resource was available within the envelope of money historically allocated to nursing and midwifery education.

The distinction between the SSR for nursing and the SSR for midwifery was found to give rise to tensions over equity in the distribution of workload within colleges. In every case it was felt that the workload demanded by the two types of course were so similar that the large disparity in resources to support each type of course could not be justified. There was some anecdotal evidence that the lower SSR for midwifery enabled the midwifery teachers to undertake more clinical supervision of students and scholarly activities such as research. The main issue from the perspective of the college was, however, predominantly one of equity in workload. No evidence was forthcoming in relation to the relative outcomes of the two SSRs which reinforces the suggestion made above that formulae are about implementing agreed policy objectives rather than determining what those objectives should be.

A further issue to arise in relation to SSR funding was the level at which the SSR was calculated within the higher education institutions and colleges of nursing and midwifery. Those higher education institutions and colleges of nursing and midwifery which calculated the SSR at the level of the course for the purpose of funding found the SSR imposed great constraints on the development of more innovative teaching strategies, economies of scale in the utilisation of staff, deployment and re-deployment of staff across courses and responding to changes in the external demand for courses. Skill mix was also more difficult to organise as specialist staff were tied to particular courses and could not be released to cover specialist teaching on other programmes.

Calculating the SSR at the level of the institution was found to provide greater flexibility in each of these areas, but gave rise to problems of ensuring equity between courses and departments within the institution. These findings mirror the work of Ellis (1986).

As a result of these difficulties a number of colleges had started to develop agreed levels of workload for teaching, administration and other areas of activity within the college. However, again this was proceeding in an idiosyncratic and uncoordinated manner, which helped the mangers of the college with the running of the college but did not enable comparisons to be made across colleges.

6.3.2.2 Per Capita Funding

The use of a per capita formula to fund nursing and midwifery education is found mainly in higher education and derives from the HEFC(E). Again this method of funding was found to have implications for the organisation and management of nursing and midwifery courses. Again per capita funding provides a baseline or safety net below which funding cannot fall. However, unlike SSR funding under Working Paper 10, per capita funding did not appear to give rise to negotiation with the funding agency over the level of funding received for a specific course. Instead the income generated by the student numbers was calculated and the course designed within the resources provided by the income. This gave rise to a much more flexible approach to curriculum planning in that the resources generated by the course could be used in a variety of different ways and were not necessarily tied to the employment of a pre-determined number of staff.

Problems arose, however, when the two systems were being used simultaneously, as the planning of courses must accommodate an SSR which may or may not be affordable within the per-capita income generated. This was particularly problematic for specialist branches such as midwifery and may render certain courses economically not viable.

6.3.2.3 Quality and Formula Funding

The use of formulae as a basis for funding does not of itself ensure quality. However, the findings seem to indicate, that the type of formula used may have a direct bearing on the process by which quality is achieved.

There was almost total agreement among the respondents that the SSR had an indeterminate effect on the quality of the education provided. The SSR provided a crude quantitative method of assessing the resource base but gave no indication about the quality of that resource base. Moreover, using SSRs as a basis for funding tended to divorce issues of quality from issues of resourcing, the two tended to proceed in parallel and were difficult to connect in the curriculum planning process. Therefore the effect of the SSR on the quality of education was difficult to elucidate.

This was not the case using per capita funding. Here the quality of the curriculum planned was costed and constantly fine tuned in order to provide the best quality course within the resources generated by the per capita income. Per capita funding was found to actively stimulate innovative solutions to problems of curriculum planning within the pre-determined resource base.

6.3.3 Free Market Funding

Free market funding was found mainly in post-registration nursing and midwifery education. There is no statutory SSR for post-registration education, neither is there a per capita income for post-registration ENB courses funded outside the HEFC(E). This means that increasingly colleges were having to cost their post-registration courses in order to ensure that any contracts to provide these courses would be adequately resourced. This method of funding was also found to occur for pre-registration courses in higher education funded under Working Paper 10, as the method of costing courses mirrored the process of curriculum planning associated with per-capita funding and therefore was used in preference to SSR funding which is unfamiliar in higher education.

This method of funding was found to provide considerable scope for innovation and flexibility of provision and curriculum planning. However, in a competitive arena it is important to develop strong indices of quality assurance to ensure that the education provided meets the quality agreed in the contract.

SECTION SEVEN

7. Discussion

The typology of funding mechanisms outlined above is derived mainly from the interview data and literature review of the study, but it also places the questionnaire data in a broader context; questions about one type of formula funding become difficult to answer if other funding mechanisms are active, and any responses about one mechanism must be interpreted in the light of the existence of others.

The three types of funding identified vary in importance from centre to centre, and education managers have varying experience with each, and this creates a danger that thought and debate about the funding of nursing and midwifery education can become rather parochial, with debates being limited by the most common experiences of the participants or by the minutiae of each mechanism. Classifying funding mechanisms into a typology facilitates debate on the basic principles and implications of each type of funding, thus allowing a wider perspective to be taken. Using the typology developed, this study therefore meets the third aim of the research, which was to produce;

> **A report which identifies an appropriate theoretical basis for further examination of SSRs in relation to the issues of resource management and academic management.**

The typology, then represents a stage of theoretical development, modelling, which sets out the basic categories of funding mechanisms. From this, it is then possible to develop recommendations for future research and development.

7.1 Recommendations

The results of this study indicate that determining funding for nursing and midwifery courses is fraught with problems, not only because of the range of different types of funding in operation, but also because of the problems inherent in each type. Historical funding mechanisms do not keep pace with change, and can themselves inhibit change, formula funding raises questions about the accuracy or flexibility of the formula, and free-market funding is a very unstable mechanism which does not allow for stability or long term planning.

Given these problems with types of funding mechanism, the most appropriate avenue for nursing and midwifery education to take is to develop more sophistication in methods of formula funding which, according to the typology developed is more flexible than historic funding, and less volatile than free-market funding. The questions to be asked about the ways in which formula funding should be developed, therefore, focus on the degree to which the formula can be standardised, and therefore more precisely defined, and the degree to which it can be made flexible to accommodate differences between colleges of nursing and midwifery/higher education institutions.

7.1.1 Standardisation of the SSR

Colleges of nursing and midwifery/higher education institutions are beginning to develop more sophisticated methods other than simply dividing the number of staff by the number of students, but this is variable and limited. Further gains in accuracy, however, are unlikely without extensive research to support the inclusion of different variables, such as staff travelling time, different teaching strategies, and administrative activities. Extensive activity analysis of teaching activity may produce a clearer picture of current practice, if methodological problems can be overcome, but this is unlikely to produce definitive guidelines for the calculation of formulae given that each college of nursing and midwifery/higher education institution will have unique characteristics, problems and challenges. Further work to improve the accuracy of formulae, therefore, may well prove to be limited in cost-effectiveness. The amount of work required is substantial, and the result of such activity may not result in a standardised formula.

This research indicates it is, however, possible to move beyond the crude number of students divided by the number of staff formula being used in many colleges of nursing and midwifery and higher education institutions, to develop something which is more accurate. One of the commonest developments made by research respondents in this study was to use WTEs in their calculations, and this is a logical step to take, although it is not itself without some problems. These problems, of course arise from the uncertainties about the constitution of WTE staff and students. It is beyond the scope of this study to give any definitive guidelines on the exact composition of the WTE, except to say that this is more likely to be determined by recourse to arguments about the principles of nursing and midwifery education than to empirical data. We therefore make the following recommendation:

Recommendation One:

That a standardised formula using WTEs rather than total numbers of staff and total numbers of students should be developed for calculating the SSR.

The use of WTEs will allow some comparisons to be made, but should not produce a formula that is too complex to be utilised in some colleges of nursing and midwifery/higher education institutions. It will be necessary to agree on how the WTE is calculated and on the grades and types of staff to be included in, or excluded from, the formula.

Other factors identified in the calculation of the SSR in this research could be developed locally to meet specific needs. A weighting could be given for certain factors such as number of sites or geographic spread. In this way a degree of flexibility can be maintained and important differences in the facilities available to colleges of nursing and midwifery/higher education institutions can be acknowledged.

7.1.2 Level at which the SSR is calculated

By defining the SSR more precisely, there is a danger that it becomes too rigid to allow flexible use of resources and staff. This flexibility is logically linked to the level at which the SSR is calculated - at course level resources are firmly linked to a particular course and it is difficult to use them in any other way or develop economies of scale. There are however, dangers involved in calculating the SSR at too gross a level - calculating the SSR at, say, a University level, it becomes difficult to allocate or guarantee resources to specific educational programmes. For this reason we would recommend:

Recommendation Two

That the SSR is calculated at the level in the organisation defined as the administrative unit or division in which nursing and midwifery education is located.

If this recommendation is adopted it will be necessary to negotiate and specify agreed workload parameters for teaching staff to ensure equity in the distribution of workload between staff, as the SSR will no longer serve this purpose.

7.1.3 Translating the SSR into Per capita Funding

A further gain in flexibility would be achieved by translating the SSR and any other funding into per capita funding. This allows greater flexibility in the way in which resources are spent - something enjoyed by those interviewed who were working in predominantly per capita systems. Resources can then be spent on non-personnel items, such as Information Technology equipment and books, or on different types of personnel, such as library staff or technical support staff. Such strategies can be linked to developments in educational practice or changes in educational needs of students and employers. The third recommendation is therefore:

Recommendation Three

That the formula used to calculate resources for nursing and midwifery education should be expressed as per.capita funding, to enable education managers to use these resources more flexibly.

If this recommendation is adopted it will be necessary to develop quality assurance procedures to monitor that the agreed resources are allocated to the course.

7.2.4 Formula funding and Quality Assurance

Implicit in the debate on the use of the SSR has been the assumption that the SSR can guarantee some sort of level of course quality. This assumption was rejected by the interviewees in this study, and indeed there seems to be no evidence that there is any link between the numbers of staff teaching on a course and the quality or outcomes of the course. Respondents in the study, recognising these limitations, had developed other approaches to quality assurance. These approaches concentrated on the process and outcomes of courses, whereas the SSR concentrates on the input in terms of staffing levels. Whether the ENB chooses to maintain the SSR or move to per capita funding, a method of monitoring the quality of courses is required. This came through strongly in the interviews, many of the respondents were able to articulate a variety of methods by which this could be achieved. The methods reported reflected existing methods used in higher education. It follows that research on quality assurance in nurse education should take advantage of ideas and approaches that colleges of nursing and midwifery/higher education institutions have already developed, concentrating on processes and outcomes.

The fourth recommendation of this study is therefore:

Recommendation Four

That the ENB target further research on the development of more sensitive and appropriate quality indicators for ENB validated courses.

This recommendation reflects the finding that a more qualitative approach to validation was felt by many of the participants in the interview, as a more appropriate guide to quality than a simple SSR.

7.1.5 Clinical Links and Funding

The research indicates that colleges of nursing and midwifery/higher education institutions are keen to maintain clinical links between academic and clinical staff. However, some uncertainty rests over the resourcing of clinical links. The exact nature of these links was beyond the scope of this study and indeed is the focus of another study currently commissioned by the ENB (Luker et.al. 1994). It appears that in other professions such as medicine clinical links have been accepted and resourced as a necessary aspect of maintaining quality education (Clack et.al. 1992). The final recommendation therefore is:-

Recommendation Five

That the ENB agree on a model for maintaining clinical links and include an adequate weighting in any formula used to fund nursing and midwifery education. This weighting should adequately compensate both higher education istitutions and colleges of nursing and midwifery and clinical placement areas for any costs incurred in maintaining close links between the two types of service.

SECTION EIGHT

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APPENDIX

August 1993.

Appendix 1

Dear Principal,

An investigation into Staff / Student ratio's within Pre- and Post-registration courses in nursing, midwifery, and health visiting.

The University of Northumbria at Newcastle has been awarded a research contract with the English National Board, to undertake a study on Student / Staff ratio's [SSR's] in nurse education. The research team consists of:

Dr Susan Procter (Senior lecturer in nursing),
Dr Jan Reed (Senior lecturer in nursing),
Hazel Sedgewick (Director of academic studies)
Sarah Murray (Research assistant)

As you are probably aware the focus on SSR's in nurse education has been generated by the changes in nurse education; the implementation of P2000, an increasing proportion of direct entry / pre-registration midwifery courses, rationalisation of institutions, closer links with and entry into higher education, and increasing use of directed study and resource based learning and the change from EAG funding to regional funding.

As a central part of this research study a confidential questionnaire aimed at finding out about the calculation of SSR's in nurse education, will be sent in September 1993 to all colleges of nursing / midwifery and colleges of higher education offering approved English National Board courses.
We would be grateful for your help in assigning the most appropriate person(s) to complete the questionnaire.

If you require any further information about the research project please contact:-

Sarah Murray	Dr Susan Procter	Dr Jan Reed	Hazel Sedgewick
Institute of Health Sciences.	Institute of Health Sciences.	Institute of Health Sciences	Newcastle & Northumbria college of Health Studies
Tel. 091 2274484	Tel. 091 2276002	Tel.091 2276002	Tel. 091 2843111
	Ext 4983	Ext 4983	Ext 26086

Yours Faithfully,

Sarah Murray.
Research assistant.

University of Northumbria at Newcastle, Institute of Health Sciences
Coach Lane Campus. Newcastle Upon Tyne, & Newcastle and Northumbria
College of Health Studies, Freeman Hospital

QUESTIONNAIRE ON STAFF / STUDENT RATIO'S IN NURSE EDUCATION

This questionnaire is related to issues concerned with calculating Student / Staff ratio's (SSR's) in nurse education.

Please could you answer the questions on the forms provided. You may wish to append any extra material that you feel is relevant. If attaching separate sheets of paper please indicate on each sheet the question number and relevant section.

Any information given on the questionnaire will be **confidential,** this means that your college/ institution will not be identifiable to anybody outside the research team. Each questionnaire has been given a reference number to avoid the use of college names.

May I take this opportunity to thank you for your time and cooperation in completing this questionnaire. A summary chapter of the final report will be provided to all the respondents.

If you require further information then contact:-

Dr Susan Procter
Lecturer in nursing studies.
Project Director
Institute of Health Sciences.
Tel 091 2326002 Ext 4983

Sarah Murray
Assistant Researcher.
Institute of Health Sciences.
Tel 091 2276002 Ext 4484

1) CALCULATION OF SSR'S.

a) Do you use a formula(e) for calculating SSR's in **nurse education**?

YES / NO (Please circle your answer).

If you answered YES to question 1a, please answer question b), c), d)
If you answered NO to question 1a, Please answer question e) only.

b) What formula(e) do you use to calculate SSR's in **pre-registration education**?

c) What formula(e) do you use to calculate the SSR's in **post-registration** education?

d) What formula(e) do you use to calculate the SSR in **Midwifery education?**

Ref no:

e) If you do not use a formula(e), can you indicate how you calculate your staffing requirements, **describing the approach you use for :-**

(i) **PRE-REGISTRATION NURSE EDUCATION.**

(ii) **POST-REGISTRATION NURSE EDUCATION.**

(iii) **MIDWIFERY**

(f) Do you include any of the following in the calculation of the SSR's?

(Please place one tick in the appropriate box)

POST	PRE-REG		POST-REG		MIDWIFERY	
	YES /	NO	YES /	NO	YES /	NO
Grade 7						
Grade 6						
Grade 5						
Grade 4						
Grade 3						
Grade 2						
Grade 1						
Lecturer Practitioner						
Clinical teacher						
outside speaker						
AVA Technicians						
Librarians						
IT Experts						
Allocation officer						
Clerical Secretarial staff						
non nursing management						
Joint appointments						
Directorate staff						
Other please Specify						

(g) Do you include any of the activities listed in the table below in the SSR calculation?

(Please tick in the appropriate box)

ACTIVITIES	PRE REGISTRATION		POST REGISTRATION		MIDWIFERY	
	YES /	NO	YES /	NO	YES /	NO
Clinical liaison						
Student support in placement						
Reading weeks						
Open learning						
Direct contact with students						
Team teaching						
Peer review						
Other please specify						

2) EDUCATIONAL PHILOSOPHY

a) Please could you state the educational philosophy of the college or send extracts of the documents which include statements of your educational philosophy.

COURSE	EDUCATIONAL PHILOSOPHY
PRE-REGISTRATION NURSE EDUCATION	
POST-REGISTRATION NURSE EDUCATION	
MIDWIFERY	

b) Do you use either an educational or nursing model on which you base your curriculum? (Please put one tick in the appropriate box and describe the model in the appropriate column)

COURSE	YES	NO	IF YES NAME AND DESCRIBE THE MODEL(S).
PRE-REGISTRATION NURSE EDUCATION			
POST-REGISTRATION NURSE EDUCATION			
MIDWIFERY			

3) Funding to the college.

a) Please could you indicate in the box below the sources of funding the college receives for pre-registration, post-registration and midwifery.

SOURCE OF FUNDING	PRE REGISTRATION.		POST REGISTRATION		MIDWIFERY	
	YES	/ NO	YES	/ NO	YES	/ NO
Regional Health Authority						
Independent Hospitals/health care organisations						
Hospital Trusts						
Government e.g. direct funding from DOH.						
Others Please Specify						

4) THE COLLEGE STAFFING ESTABLISHMENT

a) What is the approximate number of WTE posts for each of the grading levels listed in the table below, for the financial year 1992-1993?

GRADING	NUMBER OF WTE STAFF
Grade 7	
Grade 6	
Grade 5	
Grade 4	
Grade 3	
Grade 2	
Grade 1	

b) How many WTE non-nursing management posts did you have for the financial year 1992-1993?

c) How many WTE staff did the college employ at each of the grading levels listed in the table below, for the financial year 1992-1993?

GRADE	NO. EMPLOYED EXCLUSIVELY ON MIDWIFERY	NO EMPLOYED EXCLUSIVELY ON PRE-REG	NO. EMPLOYED EXCLUSIVELY ON POST REG	NO. EMPLOYED EXCLUSIVELY ON PRE & POST REGISTRATION
7				
6				
5				
4				
3				
2				
1				

5) STUDENT NUMBERS IN THE COLLEGE.

	NO OF STUDENTS
a) How many **(Total number across courses)** WTE students did the college have for the financial year 1992-1993?	
b) How many WTE students on the **pre-registration nursing course?**	
c) How many WTE students on the **post-registration nursing course?**	
d) How many WTE students on the **Mid-wifery course?**	

6) THE GEOGRAPHY OF THE COLLEGE..

a) State the **current** number of educational sites?	
b) What is the **maximum** travelling time between sites?	
c) What was the **total cost** of travel by the staff for the **financial year 1992-1993?**	

7) What else do you consider important when considering SSR's?

8) Is there any other issues about SSR's that you feel are important?

UNIVERSITY of
NORTHUMBRIA at NEWCASTLE

12 August, 1993

Principal

Dear Principal

With reference to the letter dated 10th August 1993 giving you information about a research study on SSR's in nurse education. We have now developed a questionnaire for this study aimed at giving us an overview of the current issues in calculating SSR's within pre and post registration education in nursing and Midwifery.

We have randomly selected your college of nursing to be included in the piloting of the questionnaire. The aim of the pilot study is to ascertain how accessible the information is to the respondent, whether there is any ambiguity in the questions and any alternative sources that may be available to obtain the information. It is hoped that the results of the pilot study will help to reduce as far as possible the demands made on the staff in colleges in providing the information on the final questionnaire.

We would be extremely grateful if you could complete the questionnaire and write any comments regarding the questions on the enclosed comment sheets. If you found any of the questions difficult to answer, it would be beneficial if you could explain the nature of your difficulty.

Could you return the questionnaire and comments sheets to me if possible by the 31st August 1993. If you are unable to complete by this date, could you return them to me as soon as possible.

If you require any further information about the research project and the nature of the pilot study, please do not hesitate to contact me.

May I take this opportunity to thank you for your time and cooperation with this research.

Yours faithfully

Sarah Murray
Research Assistant
Institute of Health Sciences

Faculty of Social Sciences Dean: Monica P Shaw

Appendix 4

University of Northumbria at Newcastle, Institute of Health Sciences
Coach Lane Campus. Newcastle Upon Tyne, & Newcastle and Northumbria
College of Health Studies, Freeman Hospital

STAFF / STUDENT RATIO'S IN NURSE EDUCATION

This questionnaire focuses on the factors included in the calculation of Student / Staff ratio's (SSR's) in *nurse education.

Please answer the questions on the forms provided. You may wish to append any extra material that you feel is relevant. If attaching separate sheets of paper please indicate on each sheet the relevant question number and section.

Any information given on the questionnaire will be **confidential**, this means that your college/ institution will not be identifiable to anybody outside the research team. Each questionnaire has been given a reference number to avoid the use of college names.

May I take this opportunity to thank you for your time and cooperation in completing this questionnaire. A summary chapter of the final report will be available to all the respondents.

If you require further information then contact:-

Dr Susan Procter
Senior Lecturer in nursing.
Project Director
Institute of Health Sciences.
Tel 091 2326002 Ext 4983

Sarah Murray
Research Assistant
Institute of Health Sciences.
Tel 091 2276002 Ext 4484

* This is a generic term for Nursing and Midwifery

SECTION ONE

Staff / Student ratio Calculation For PRE-REGISTRATION COURSES.

Please read the notes below before completing this section.

1.1) In relation to the following **Pre-registration programmes please **TICK** which of the following factors you currently include in your calculation of Staff to Student ratio's [SSR's]

	RSCN	RGN	RNMH	RN Adult	RN Mental Health	RN Mental Handicap	RN Children
Total No of Teaching Staff							
Total No of Students							
Total No of *WTE Teaching Staff							
Total No of *WTE Students							
Total No of Teaching Weeks							
No of Training years in the programme							
Number of Weeks per year							
Average class size in the programme							
Average lecturers hours in a day							
Average lecturers hours in a week							

NOTES

*****PRE-REGISTRATION PROGRAMMES:-** Enrolled nurse conversion course has specifically been omitted from the pre-registration programmes.*

***WTE** = Whole Time Equivalent.*

QUESTION 1.1 CONTINUED

	RSCN	RGN	RNMH	RN Adult	RN Mental Health	RN Mental Handicap	RN Children
Average lecturers hours in a year							
Average student hours in a day							
Average student hours in a week							
Average student hours in a year							
Total Staff contact hours							
Total staff contact hours in lectures							
Total staff contact hours in seminars							
Total staff contact hours in tutorials							
Total staff contact hours in clinical area							
Other please specify							

1.2) Do you use a mathematical equation / Formula to calculate your SSR for the pre-registration courses? **(Please circle as appropriate)**

YES / NO

1.3) If you answered **YES** in question **(1.2)**, Please give the equation / formula below.

eg $\frac{\text{Total number of students}}{\text{Total number of staff}}$ = Ratio

1.4) If you answered **NO** in question **(1.2)**, please describe what you do to check that you have an SSR of [e.g 1:15, 1:14, 1:13] on the pre-registration courses.

SECTION TWO

Staff / Student ratio Calculation For POST-REGISTRATION COURSES which are 40 days or more in length

Please read the notes below before completing this section.

2.1) In relation to **ONE** of the following Post-registration programmes please **TICK** which of the factors stated below you currently include in your calculation of Staff to Student ratio's [SSR'S]

	- ENB Course 100	# ENB Course 176	^ ENB Course 199
Total No of Teaching Staff			
Total No of Students			
Total No of WTE Teaching Staff			
Total No of WTE Students			
Total No of Teaching Weeks			
No of Training years in the programme			
No of Weeks per year			
Average Class size in the programme			
Average Lecturers hours in a day			

NOTES

***- ENB COURSE 100** = General Intensive Care Nursing for Nurses on Parts 1 (RGN) or 2 (EN (G)) of the Professional Register. Length of this course is 24 weeks exclusive of annual leave.*

***# ENB COURSE 176** = Operating Department Nursing for Nurses on Parts 1 (RGN), 2 (EN (G)) or 8 (RSCN) of the professional Register. Length of this course is 24 weeks exclusive of annual leave.*

***^ ENB COURSE 199** = Accident and Emergency Nursing for Nurses on Parts 1 (RGN), 2 (EN (G)) or 8 (RSCN) of the professional Register. Length of this course is 24 weeks exclusive of annual leave*

SECTION 2.1 CONTINUED

	~ ENB Course 100	# ENB Course 176	^ ENB Course 199
Average Lecturers hours in a week			
Average Lecturers hours in a year			
Average student hours in a day			
Average Student hours in a week			
Average Student hours in a year			
Total Staff contact hours			
Total Staff contact hours in Lectures			
Total Staff contact hours in Seminars			
Total Staff contact hours in Tutorials			
Total Staff contact hours in Clinical area			
Other please Specify			

2.2) Do you use a mathematical equation / formula to calculate your SSR for the post-registration course you have indicated in question **(2.1)**? **(Please circle as appropriate)**

YES / NO

2.3) If you answered **YES** in question **(2.2)**, Please give the equation / Formula below.

e.g $\frac{\text{Total number of students}}{\text{Total number of staff}} = \text{Ratio}$

2.4) If you answered **NO** in question **(2.2)**. Please describe what you do to check that you have an SSR of e.g 1:15, 1:14, 1:13 on the Post-registration course you have indicated in question **(2.1)**?

SECTION THREE

Staff / Student ratio Calculation For POST-REGISTRATION COURSES of less than 40 days in length.

Please read the notes below before completing this section

3.1) In relation to **ONE** of the following Post-registration programmes please **TICK** which of the factors stated below you currently include in your calculation of Staff to Student ratios [SSR's]

	@ ENB Course 902	'ENB Course 997 / 998	+ ENB Course 941
Total No of Teaching Staff			
Total No of Students			
Total No of WTE Teaching Staff			
Total No of WTE Students			
Total No of Teaching Weeks			
No of Training years in the programme			
No of Weeks per year			
Average Class size in the programme			

NOTES

@ ENB COURSE 902 *= return to Nursing for nurses on parts 1 (RGN), 2 (EN (G)), 3 (RMN), 4 (EN(M)), 5 (RNMH), 6 (EN (MH), 7 (EN) or 8 (RSCN) of the professional Register. Length of the course is a min of 133 hours (15 days) and a max of 150 hours (20 day).*

'ENB COURSE 997 *= Teaching and Assessing in clinical practice for midwives on part 10 of the professional register (RM). Length of course min 15 days and should be completed in a period of 20 weeks.*
'ENB COURSE 998 *= Teaching and assessing in clinical practice for first and second level nurses who have responsibility for teaching, supervising and assessing students in the clinical setting.*

+ENB COURSE 941 *= Nursing Elderly people for nurses on Parts 1 (RGN), 2 (EN (G)), 3 (RMN), 4 (EN(M)), 5 (RNMH) or 6 (EN (MH)) of the professional Register. Length of course is 22 days.*

SECTION 3.1 CONTINUED

	@ ENB Course 902	'ENB Course 997/998	+ ENB Course 941
Average Lecturers hours in a day			
Average Lecturers hours in a week			
Average Lecturers hours in a year			
Average student hours in a day			
Average Student hours in a week			
Average Student hours in a year			
Total Staff contact hours'			
Total Staff contact hours in Lectures			
Total Staff contact hours in Seminars			
Total Staff contact hours in Tutorials			
Total Staff contact hours in Clinical area			
Other please Specify			

3.2) Do you use a mathematical equation / formula to calculate your SSR for the post-registration course you have indicated in question **(3.1)**? **(Please circle as appropriate)**

YES / NO

3.3) If you answered **YES** in question **(3.2)**, Please give the equation / Formula below.

e.g $\frac{\textbf{Total number of students}}{\textbf{Total number of staff}}$ **= Ratio**

3.4) If you answered **NO** in question **(3.2)**, Please describe what you do to check that you have an SSR of e.g 1:15, 1:14, 1:13 on the Post-registration course you have indicated in question **3.1**

SECTION FOUR

Staff / Student ratio Calculation For the MIDWIFERY PROGRAMMES which lead to entry of part 10 of the UKCC professional register.

4.1) In relation to the following Midwifery programmes please **TICK** which of the following factors stated below you currently include in your calculation of Staff to Student ratio's [SSR'S]

	Midwifery Programme duration 3 years	Midwifery programme duration 18 months
Total No of Teaching Staff		
Total No of Students		
Total No of WTE Teaching Staff		
Total No of WTE Students		
Total No of Teaching Weeks		
No of Training years in the programme		
No of Weeks per year		
Average Class size in the programme		
Average Lecturers hours in a day		
Average Lecturers hours in a week		
Average Lecturers hours in a year		
Average student hours in a day		
Average Student hours in a week		
Average Student hours in a year		

SECTION 4.1 CONTINUED

	Midwifery Programme duration 3 years	Midwifery programme duration 18 months
Total Staff contact hours		
Total Staff contact hours in Lectures		
Total Staff contact hours in Seminars		
Total Staff contact hours in Tutorials		
Total Staff contact hours in Clinical area		
Other please Specify		

4.2) Do you use a mathematical equation / Formula to calculate your SSR for the **3 year Midwifery programme? (Please circle as appropriate)**

YES / NO

4.3) Do you use a mathematical equation / Formula to calculate your SSR for the 18 months midwifery programme? **(Please circle as appropriate)**

YES / NO

4.4) If you answered **YES** in question **(4.2)** and / or **(4.3)**, please give the equation / formula below.

e.g $\frac{\text{Total number of students}}{\text{Total number of staff}}$ **= Ratio**

3 Year Midwifery programme:-

18 month Midwifery programme:-

4.5) If you answered **NO** in question **(4.2)** and/or **(4.3)**, please describe what you do to check that you have a ratio of e.g 1:10 ENB regulation, or 1:14, 1:13 on the midwifery programmes.

3 year Midwifery programme:-

18 month Midwifery programme:-

SECTION FIVE

5.1) If you have ticked that you include the Total number of **Whole Time Equivalent** Staff or Students in the calculation of the SSR'S please could you indicate how you calculate **Whole Time Equivalent.**

WTE STAFF:-

WTE STUDENTS:-

5.2) Is there any other issues about SSR'S that you feel are important.

UNIVERSITY of
NORTHUMBRIA at NEWCASTLE

23 September, 1993

Dear Principal

An investigation into Staff / Student ratio's within Pre- and Post-registration courses in nursing, midwifery and health visiting

We first contacted you about the above study on the 10th August 1993. After extensive piloting of the first questionnaire we have revised the research design and this has resulted in a much more focused final questionnaire, limited to a review of the factors you include in your calculation of Staff to Student ratio's on Pre- and Post registration courses. The initial literature review and informal interviews have demonstrated that Senior Nurse Educationalists draw upon a wealth of knowledge and experience in the calculation of SSR. Our field work has confirmed that the issues addressed in this final questionnaire are important in the context of the current changes in Nurse education.

The information given on this final questionnaire will be used to produce a descriptive account of the range of different ways Colleges of Nursing and Institutes of Higher Education manage the calculation of Staff to Student ratio's, and will be presented in an interim report early in 1994. We also intend to use the questionnaire to identify a sample of colleges and institutes who clearly undertake innovative practice in the calculation of SSR and use this sample to conduct a more in depth qualitative analysis of the management of staffing resources.

We are committed to identifying innovative practice and will use the information you give us to this end. A final report of the in depth study of colleges will be produced in June 1994 and a summary chapter of this report will be available to all respondents.

We would be grateful for your help in assigning the most appropriate person[s] to complete the questionnaire, and return it in the stamped addressed envelope, if possible by the 1st November 1993; If you are unable to complete by this date, could you return it to us as soon as possible.

If you require any further information about the research project, please do not hesitate to contact us. We thank you for your time and co-operation with this research project.

Yours faithfully

S Murray

Sarah Murray
Research Assistant
Institute of Health Sciences

Dr S Procter
Senior Lecturer in Nursing
Institute of Health Sciences

Faculty of Social Sciences Dean: Monica P Shaw

UNIVERSITY of
NORTHUMBRIA at NEWCASTLE

COACH LANE CAMPUS

29 November, 1993

Dear Principal

An investigation into Staff/Student ratio's within Pre- and Post-registration courses in nursing, midwifery and health visiting.

With respect to the letter and questionnaire that we sent you on 1st October regarding the above study; We are writing to you again to ask for your co-operation in filling out the enclosed questionnaire. It is vital for the success of the study, that we receive as broad a spectrum of responses as possible from both colleges of Nursing and Institutes of Higher Education.

We realise that due to the current changes in nurse education there are a lot of pressures on Senior Nurse Educationalists time. However, we would be grateful if you could assign the most appropriate person or persons to complete the questionnaire and return it to us at your earliest convenience. If you have already completed and returned the questionnaire please ignore this letter.

May we take this opportunity to thank you for your time and co-operation with this study.

Yours faithfully

Sarah Murray
Research Assistant
Institute of Health Sciences

Dr S Procter
Senior Lecturer in Nursing
Institute of Health Science

Fielwork objectives.

- Establish information on the development of approaches to calculating SSR's as they have taken place within the centre. the individuals will be asked to describe thier knowledge and understanding of developments of the SSR from the perspective of their function within the organisation.

- To idetify the roles and responsibilities, working practices and organisational functions of the University which are included / excluded in the calculation of the SSR e.g.

A .Personnel

Pricipals
Vice-pricipals
Tutors
Joint appiontments
Management / Directorate staff
Clerical Secretarial staff
Administrative Officers
Allocation Officers.
Librarians
Technicians
Cross faculty contributions
Outside speakers.

B Workload / work patterns.

Clinical liaison
Student support in placements
Consultation / Research and Development activities.
reading weeks.
Different modes of delivery e.g. open learning / Distance learning
Direct contact with student groups
1:1 contact with students
Team teaching
Peer review activities.

- To identify the variability in the SSR between courses. in particular between pre-and post-registration courses and nursing and midwifery courses.

- To identify variability in the SSR between Colleges of Nursing and Midwifery and Institutions of Higher Education

The information obtained from the interviews will be used to produce a report which:-

- Identifies an appropriate theoretical basis for further examination of SSR's in relation to the issues of resource management and academic management.

- To identify the variability in the SSR between courses, in particular between pre-and post-registration courses and nursing and midwifery courses.

- To identify variability in the SSR between Colleges of Nursing and Midwifery and Institutions of Higher Education. To try to ascertain the actual numbers of staff in post :- Tutorial, Administration, and Technical and ascertain the actual numbers of students currently registered with the College / Higher Education for each of the sites.

- To identify who currently defines the components of the SSR formula e.g ENB, College / Higher Education Institute, Regional Health Authority.

The information obtained from the interviews will be used to produce a report which:-

- Identifies an appropriate theoretical basis for further examination of SSR's in relation to the issues of resource management and academic management.

An outcomes investigation into the effects of staff : student ratio within pre- and post-registration courses in nursing, midwifery and health visiting.

Please complete this form and return it to Sarah Murray by Monday 4th March 1994

Name of College / University:

We * will / *will not take part in the interview study. **Delete as appropriate*

If you are willing to take part in the individual and group interviews Please tick in the boxes those pairs of days you will be available to meet.

Individual interviews	/	**Group interviews**	
Monday 14th March - between 2pm - 4pm		Tuesday 15th March - between 11.00am - 12.30pm	☐
Thursday 17th March - between 2pm - 4pm		Friday 18th March - between 11.00am - 12.30pm	☐
Monday 21st March - between 2pm - 4pm		Tuesday 22nd March - between 11.00am - 12.30pm	☐
Thursday 24th March - between 2pm - 4pm		Friday 25th March - between 11.00am - 12.30pm	☐
Tuesday 29th March - between 2pm - 4pm		Wednesday 30th March - between 11.00am - 12.30pm	☐

If none of the above dates are convenient for you could you please contact Sarah Murray Tel no 091 227 4484 to arrange a mutually convenient time.

We will contact you to arrange a convenient time and place to meet.